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THE second annual convention of the National Association of Builders of the United States of America was held at Cincinnati, February 7, 8 and 9 last. While those who were so fortunate as to attend the first convention, and saw the methodical manner in which the association was organized, and its members at once commenced to carry out its purposes by practical work, may have been impressed with the system that prevailed, as well as the caliber of the delegates who transacted the business of the convention, it could not have been with feelings other than astonishment that the advance made since the last convention was observed in this. Out of thirty exchanges in the association, twenty-four were represented by delegates, each exchange being entitled to one delegate to every fifty members. Chicago has the largest exchange, and sent eleven delegates; Denver and Sioux City the smallest, and sent one each; but the building interest of the country was fully represented, there being a total of eighty-four delegates in attendance.

ONE of the most important reports and most fully discussed by the delegates, taking up the better part of two of the six sessions, was that upon the preparation of estimates covering the preparation of plans and specifications by the architect. Two prominent points were brought forward: One was the necessity of having complete details from the architect before work is figured, and that plans and specifications alike should show what was intended to be figured upon. The other point was that all plans and specifications should be in ink or made by some indelible process. Instances without number were cited in support of these points, which were passed by the convention with a resolution directing the several exchanges to meet the architects in their respective districts, and try and obtain their coöperation in the proposed reform. These points all architects of standing will indorse and carry out wherever practicable.

ANOTHER matter of importance to the entire building interest was that regarding strikes among employés in the building trades. The report of the Legislative Committee on this subject was strongly in favor of permanent arbitration. While the discussion developed some opposition from those who thought the labor in the building trades too unreliable to be treated with, the good effect of arbitration in the past will probably cause this method of not only settling, but preventing trouble between employés and employers in the building trades, to be adopted by all trades represented in the association.

THE apprenticeship question, and the subject of lien laws in the several states received attention, while manual training was long and ably discussed by the delegates, members of almost every delegation having something to say upon this subject. Standing, as it does, in the minds of those who have the future of the country, and especially the building interest, at heart, as a solution to the apprenticeship problem, more than one delegate pronounced it the most important of all the measures discussed in the convention. The general expression was in favor of free manual training made part of the public school system of the country, so that hands would be as universally educated as brains, and that mechanical schools should be organized by private enterprise similar to our schools and colleges, for the use of those who choose to follow mechanical pursuits.

FROM a point of order and precision we have never seen a more thoroughly organized, business-like convention. Each delegate who spoke seemed to be prepared with his argument and his deductions. The chairman and secretary performed those functions with a thorough understanding of the work, and while there was scarcely an approach to effusive oratory, the chair was quick to see any deviation from the question in hand and checked the speaker immediately, thus allowing none of the time of the session to be wasted. It was also noticed that though the sessions were called at 9:30 A.M. and continued to one P.M., that upon commencing at two o'clock each day almost every delegate was in his place at the tap of the gavel. This feature of order and promptness is most commendable, and architectural conventions could learn a valuable lesson from observing the parliamentary usages so early adopted in the history of the conventions of the National Association of Builders.

ONE of the most pleasant features of the convention was the thorough hospitality extended the visiting delegates by the Cincinnati Exchange. While the business of the convention occupied the entire three days, each evening was given to some entertainment. About forty ladies accompanied their husbands, and to these the Cincinnati ladies were most cordial and hospitable, occupying each hour with some form of entertainment, making their visit one long to be remembered. As the next convention will be held in Philadelphia, the ladies, as well as the Exchange of the City of Brotherly Love, will have an opportunity to exhibit that excellent quality from which the name of their fair city is derived; and, no doubt, they will do so, but in their own way, and equally satisfactory to the visitors.

Improvements and Advancement in Methods of Brickmaking.*

BY J. E. ADAMS, OF INDIANAPOLIS, IND.

THE subject of the improvement and advancement in methods of brickmaking, assigned to me by your executive board, is not a question to naturally claim the attention, hold the interest, or raise an enthusiastic and responsive sentiment in the mind of the average man; on the contrary, the subject is one that deals with cold material, practical facts, and possibly, uninteresting conclusions and results; but to those whose lines of thought have been turned in the direction of manufacturing and using this most useful and enduring of all building material, the consideration of the subject is one of absorbing interest, and involves questions of large proportions and great possibilities.

Therefore, in appearing before you, I am imbued with feelings of apprehension in not being competent to fully meet the requirements of the hour in presenting the practical features of my subject in a manner to acceptably claim your attention and merit your approval. My purpose will be to present our case in as plain, brief and direct a manner as possible. At the outset I risk no fear of contradiction in making the statement that history, both sacred and profane, mentions brick made from clay as the first material used in the construction of shelter for man. The plastic nature of clay, and its features of becoming hard and serviceable, under a degree of heat, into a substance more firm than stone, are qualities obviously adapting it for substantial and lasting building purposes, that from the earliest Babylonians to the present time, no age has failed to perceive and use it in its many and varied forms, as the best, cheapest, most feasible and durable of any material found by man in his earliest efforts and struggles to obtain shelter for himself and family.

From its frequent mention by ancient historians the manufacture of brick appears to have been the most important as well as the first industry of the ages.

The walls of ancient Babylon and the cities of Egypt were constructed of burnt brick laid in bitumen, as well as the river walls, and hydraulic works of that section and the structure of the Tower of Babel. Herodotus mentions an inscription upon one of the Pyramids of Egypt, the translation of which makes it read: "Do not undervalue me by comparing me with pyramids of stones, for I am better than they as Job exceeds the other Deities, for I am made of brick made from clay."

Inscriptions of a like character have been found in many of the structures of high antiquity. Pliny mentions the general use and varied purposes adopted to the use of brick, referring to the Greeks as adepts in the manufacture and building of brick houses, having laws not allowing them to be used until after they had been seasoned and tried five years, and had received the approval of a magistrate.

The palace of Croesus, King of Lydia, and many other Asiatic sovereigns, some of the Temples of Athens, as well as the walls of that city, were built of this material. The Romans were experts in brickmaking. In all the great existing ruins of Rome bricks are found in great profusion, and the varied use is evidenced by many of their works standing to this day, while the stones of the Coliseum, and the other great public works of the Imperial city, have crumbled and succumbed to the ravages of time. The Roman bricks are comparatively sound and retain their rectangular form and hardness.

In the aggressive subjugation of Great Britain, the Romans left but few evidences of their power and advancement in the practical arts, more impressive and lasting than the deep red and well burned brick found in the walls and forts of England. In the reign of Henry VIII, brickmaking had attained great perfection. The Dutch have been awarded the credit of making the best brick of the middle ages; so solid and durable were their bricks that they were used for their floors and street pavements. Specimens of Holland brick can yet be seen in New York in buildings erected by early Dutch settlers. The bricks used were brought over from Holland.

None made at any period of time are more sound and durable. Even ornamental brick were made in Asia very early in the centuries. Brick made at Nepaul were so remarkably compact and elegantly ornamented on the surface to be peculiarly fitted for architectural decorations. The Chinese gave to their brick the texture of porcelain.

The ancient Peruvians excelled in the manufacture of brick to such a marked degree that Ulloa was confident that there must have been some secret in their composition.

Gentlemen, you must overlook a pardonable pride on the part of brickmakers in following an industry more ancient than any represented on the floor of this convention.

On down through the ages and thousands of years to the present time brick has been recognized as the durable building material. Nothing to equal it has been found, and hardly a shadow of doubt exists in practical minds that nature's forces, coupled with the inventive genius of man in his researches and inquiries in the line of progressive improvements, will ever find a material to supplant it. In the improvement of modern brickmaking, the advancement has been largely in the mechanical and manufacturing department, not in the character of the material of which brick is composed.

The earth has yielded up to man no clays superior to those of Asia and Europe, used in the manufacture of brick early in the centuries; and what credit this generation assumes in the improvement of brick and the methods of manufacture is largely in the preparation of the material and the proper use and application of the improved methods in making and burning.

The manufacturer of brick cannot point with any degree of pride or satisfaction to much progress or advancement made toward the betterment of his methods in the early part of this century, for it was not until 1835 that even an attempt was made to make a brick, except by the old-time primitive hand methods. In that year the first horse-power brick machine was invented; its operation by steam was not perfected until 1840, in which year the father of the writer was mobbed for introducing a machine in the city of Philadelphia. It was destroyed and the castings were thrown into the Schuylkill river, such was the prejudice and antipathy of the old-time brickyard employés to any methods or improvements that appeared an innovation to their old-time ways. However, as the demand for brick increased with growth and progress of the country, so also the markets, especially in larger cities and populous centers, called for a better article, until the active clay worker, and the cunning hand of the machinist, in a measure, solved the problem and put in practical shape and successful operation methods that had been deemed impracticable and theories pronounced exploded. While there are clays so chemically constructed as to be difficult to manipulate and reduce by machinery to a consistency requisite for a good brick, yet in the last few years machinery has in a large degree supplanted the old-time manner of producing brick that has been in vogue for centuries.

Until the brickmaker of today can point with pride to the improved methods of conducting his business, and view with satisfaction the wonderful changes wrought in the production of this most useful article, the quality of the output and the character of the product throughout the country, well attest the vast improvement and the certain betterment of the business of brickmaking. I venture the assertion that among the practical and observing men attending this gathering, no matter what line of thought their minds have followed, or what special departments of the great building interest of the land they have made the study and business of their lives, there are but few who have observed the noticeable change in the character and substantial and permanent improvement in the quality of the brick in their respective localities.

If fully engrossed in your own specialty, gentlemen, you can but be mindful of the beautiful color, smooth surface texture and architectural design of the brick of such cities as Philadelphia, Baltimore, Trenton, Zanesville, Evansville, Cincinnati, Chicago, St. Louis and other localities I might mention.

Improvements in brickmaking, as in all other branches of business, are made practical and useful only through a full understanding of the requirements of the trade and careful attention to a great self-evident business law, deviations from which generally result in disaster to him who does not take the pains to learn his business, even to the minutest details. From the old-time hand process to the crude and illy constructed pug mill, then the tempering wheel, finally the machine run by hand, then the horse power, until today we find hundreds of different kinds and character of brick machines run by steam and adapted to the different clays of the different states, skillfully adjusted and perfectly automatic in the wonderful construction, many capable of turning out fifty thousand or more perfect bricks per day. Time would permit mentioning only a few localities where the great advancement in the business is progressive to a marked degree. I would ask the builders from Philadelphia to bear testimony to the wonderful growth and progressive advancement in the art of brickmaking in the city of "Brotherly Love." From the brick in William Penn's house, now in Fairmount Park, though made nearly two centuries ago, crude, rough and irregular, yet sound, strong and almost indestructible, giving promise of centuries to come to the beautiful, smooth, and almost incomparable pressed brick, which approximates more nearly a perfect brick than any yet produced on either continent, and which occupies so conspicuous a place and adds so much in beauty and effect to the striking yet distinctive character of architecture of that beautiful city. In New York and other Atlantic cities we find houses built of brick, brought from Holland fully two hundred years ago, without a flaw or sign of decay, and apparently as firm and sound as when first laid in the wall.

When we compare the Dutch brick with those made on the North river, at Haverstraw, Croton and other contiguous points, the comparison is marked, and we can but be impressed with the marvelous improvement in the character of the brick found in the massive edifices and magnificent structures of our metropolitan city, where, in the ceaseless activity of the building interest, one thousand millions are annually consumed.

In Chicago, we find the brick produced in the early history of the city indifferent in appearance and below the average in quality, while today, no city or section gives evidence of higher advancement in the art of brickmaking than is found in the sky searching and almost incomparable buildings of that great city on Lake Michigan, whose growth is indeed the marvel of the century, or where the science of building in all the different and varied departments is advanced to a higher place than is to be found in the beauty, strength and adaptability and almost incomparable architectural designs of the great public and business structures and private residences of that wondrous city, whose magic growth and unquestioned prosperity is justly the pride of all Americans. The fine face brick made in St. Louis, occupies a prominent place in the markets of the central and western states, and is excelled by none; the same in a measure can be said of the brick produced in Zanesville, Evansville and other points to which I might refer if time would permit.

It would be a pleasure for me to further extend my line of thought, in presenting more fully the salient points and interesting features of the material growth, practical and substantial improvements, as well as the vast and dependent relation inseparably connected with this most useful and hitherto neglected industry. The subject is one of absorbing interest to the manufacturers of brick, and overshadowing importance to the other departments of the building interest, for, gentlemen, no matter which particular line of the varied building interests represented on this floor you may follow, your observations and calculations in estimates and close business relations with the several departments of the superstructure, gives you certain information and intimate knowledge of the high importance and unquestioned dependence brick bears to the construction of the whole building, not only in the support, strength and solidity of the building, but in the beauty and architectural features of the structure.

Brick stands alone, the one article used in building, superior and above any known material, in its ability to successfully resist the ravages of the

* Paper read before the second annual convention of the National Association of Builders at Cincinnati, February 8, 1888.

greatest enemy of our structures — fire. As our population becomes more dense and the country grows in material wealth and prosperity, the advancement of the builder's art will be evidenced by the general improvement in the character of our buildings, and more attention will be given to strength, durability, convenience and harmony of the design, with power to resist the ravages of fire and climatic changes. In the growing demand for the erection of fireproof and time-resisting structures, we may well assume that brick will bear no inconspicuous place.

The universal use and enormous demand for wood as a building material, with the gradual depletion of our forests, and consequent exhaustion of the timber supply, will render lumber difficult to obtain and too costly for general use. Therefore, in the near future, we may naturally anticipate that brick will become more and more the dependence of the builders, and will be almost universally used, and be recognized and acknowledged as the important factor that will assist to practically solve the problem that has claimed the best thought, and enlisted the intelligent judgment of architects, designers and builders for generations, namely, the erection of structures that will withstand the conflict with the elements, and be enduring, and practically indestructible. But, gentlemen, I have trespassed upon your time and imposed upon your patience beyond my purpose, and will therefore conclude this desultory paper with the thought that, perhaps, in the years to come, when the fruits of these annual gatherings have been made manifest, and the resulting benefits apparent, those who come after us will say, in the organization of this association, "we builded better than we knew."

While it is impossible in this early period of the life of the National Association of Builders, in a prospective view of the many improvements and certain advancement of the vast and accumulative interests of which the members of this association are in part the representatives, to form a conception or be made sensible of the future status of our business, or the important and intimate relations the building interests of the future will bear to the growth, expansion and prosperity of this republic, the intelligent advancement of the science, as well as the better character, more convenient and useful nature of the buildings to be erected in the years to come, can only be measured by the growth in wealth, population and material resources of the nation.

While our calling is among the oldest in point of years, yet there is no degree of excellence to be attained wherein we can say, there is nothing now to be learned. On the contrary, the builder who would be abreast of the times, must be a student in all the term implies; constantly alive to the requirements of the trade, and mindful of the tastes and wants of the people.

No occupation is more honorable — certainly none can be deemed more useful to the wants of men, or of greater importance to the age in which we live.

For, gentlemen, if I read your minds aright, and understand the avowed objects of this association, the intelligent aim and organized purpose of these annual gatherings is to bring the science of building to a higher standard of excellence, and thus elevate and dignify this most useful industry.

Improvements and Advances made in Carpentry.*

BY WILLIAM GOLDIE, OF CHICAGO.

HISTORY does not give us a very clear and authentic account of carpentry in the early stages of the world. It tells us very plainly who the first tailor was, and tailoress, but it fails to give us the name of the first carpenter. We are left, then, to conjecture the kind or quality of work performed in the antediluvian days until we hear of the inhabitants beginning to build Noah's ark — a great structure, which we imagine was mostly built by carpenters, probably pretty rough carpenters at that, as we are told that after they had finished this gigantic structure they were all drowned, so that old Noah would not fear having any mechanic's lien placed on the building. That, gentlemen, stopped the progress of carpentry for some time to come. Nor does history give us much information about the cities that were built during the medieval times, when the world was again being inhabited, until we come to the time of the building of Jerusalem and the beautiful city of Athens, whose wealth, culture in the arts and sciences, lifted it up in all its grandeur and enterprise to be the most beautiful city in the world. Josephus gives us a partial view of some of the homes and palaces of the people in Jerusalem, especially of the temple of Solomon and the palace which he built for himself; also the many new cities he built all over the land of Judea. A description of some of these structures might be here mentioned, but as progress is our text, we must move on with time. The temple of Solomon, I will add, was a wonderful building of that day; it would probably not be considered a wonderful piece of workmanship at the present day. But, gentlemen, we will do the mechanics justice that worked at the temple. Solomon brought from all parts of the then civilized world the best artisans in every branch of the building line, and the work of the interior of the temple, with its artistic carving, its different kinds of rich and colored woods, its gold and silver ornaments, its beautiful designs — all are worthy of great praise and credit to the mechanical genius of that day. We have no records, gentlemen, of any strikes in those days. I imagine if Solomon and all his glory had a Chicago strike on his hands, it would have seriously impeded the progress of that institution.

Gentlemen, let us move on with time apace, until we come to the small but never to be forgotten little city of Galilee in Judea, where the name of carpenter took its first respectable calling, and will now continue to be till the end of time, where we see the Savior of the world humbly working as a carpenter to earn his daily bread.

Let us pass the numerous cities built under the rule of the Roman Empire, and travel on with time to the Elizabethan period, even to the twelfth and fifteenth centuries, when that baronial style of turreted castles came to be a necessity for the safety of the baron and his lieges, built for strength and defense more than for any artistic display. Yet there are many monuments of these structures standing to this day, representative of great ingenuity and skill of the working artists and mechanics at that period. Let us view the old cathedrals built in the fourteenth century and about that time, and we cannot but admire the work and skill of the artisan in all of those branches contributing to their construction.

Gentlemen, the progress of time and carpentry has brought us down to the period when our own land — the land of the free and the brave — was settled and inhabited by the Saxon race — when carpentry had its beginning here.

The occupation of the carpenter has for all ages been one of the most essential known to man. The pioneers of our civilization first hewed down the trees of the forest, and shaped them into logs to build cabins to shield them from the severe winter cold and storms of the inclement season, as well as being an abiding place for the family; and although rude in construction, was looked upon by the men of those days as the brightest spot to them on earth, it being the habitation of all he held most dear, his wife and children.

The rapid increase of our population and progress made in civilization made it a necessity to have greater accommodations in the dwelling house, and steam being brought into practical use as a motive power, by which means logs were manufactured into boards and plank, the carpenter was required to exercise his ingenuity to build more comfortable, larger and handsomer abiding places; consequently, the log hut gave place to the more pretentious frame house, and I presume there are many among the gentlemen present who can look back to their early days and recall the feelings of pleasure they experienced when their parents moved from a smaller frame house, held sacred as their home, to a larger frame building with a handsome piazza in front or at the side of it.

As the number of families and dwellings increased, the village became the city. It was necessary to erect buildings of less combustible materials; therefore the walls of our homes, public buildings and stores were built of brick, stone and iron; but the knowledge of the carpenter was always in requisition, not only for his particular work in the construction of the building, but from his experience and general knowledge of building he was consulted in a great measure more than any other mechanic in the erection of the same, as to the practical employment of various other materials at hand to enter into its construction. He is generally called upon by all other mechanics for some information to be gained.

Gentlemen, we have come to the present day, when, I believe, nay, affirm, that at no time in the history of the world were we as far advanced as we are at the present day. Look at the public buildings of our large cities, and compare them with ancient buildings. Look at the houses and homes of the people, rich and poor, and put them in contrast with those of the olden times. Go with me, if you please, to the suburban homes of our merchant princes of New York, Boston, Philadelphia, Chicago and the beautiful city of Cincinnati. Let us examine them in detail, their beautiful designs, splendid workmanship, artistic embellishments, their usefulness, their simplicity, their sanitary condition and the general comfort of these lovely homes, and I am free to say you will agree with me that never before since the creation of the world has the building of the business houses of the cities, the homes and dwellings of the people of all countries and climes, been as good or as useful or as beautiful as at the present day.

Gentlemen, I thank you for your kind attention to my humble effort on improvement and advances in carpentry.

* Paper read before the second annual convention of the National Association of Builders at Cincinnati, February 8, 1888.

Improvements and Advances made in Roofing.*

BY E. E. SCRIBNER, OF ST. PAUL, MINN.

IT goes without saying that roofs have existed from the earliest times. It is probable that the first idea in building construction was embodied in a roof, however primitive that roof may have been. While roofs date back far beyond the researches of historians, it still remains that modern roofs differ radically from those of ancient times. New materials are constantly being suggested for use for roofing purposes, and new constructions, with old materials, are continually being thrust upon the notice of architects and builders.

One of the earliest materials for roofing was, perhaps, straw in the form of thatch, or, possibly, it may have been even coarser material than straw. Primeval man is supposed by many writers to have developed the art of building very early. At first he is supposed to have taken refuge in caves, and in the trunks of hollow trees, when overtaken by a storm. Seeking shelter in this way must have turned his thoughts toward means of providing protection more convenient than journeying to the cave, or hollow tree, which nature had provided. It is probable that tents preceded houses. By tents, of course, I do not mean such structures as are known by this term at the present time, but rather a crude shelter in which the skins of animals, rather than pieces of cloth, served as coverings; and here again the idea of a roof occurred. The subject of roofs, like many another, when taken far enough back in the history of the world, affords ample play for the imagination; there are so few facts that there is no room for other than speculative inquiry.

Seeking refuge from a storm under the overspreading branches of a tree must have suggested to our ancestors of a prehistoric age the use of boughs or branches, as a possible shelter in time of need. How man first applied these to the rude structure that afterward became a house, or what the successive steps may have been that led from this crude construction to the modern shingle, I have not time to inquire even did a research promise any results.

Noticing how the hair of animals and the scales of fishes are placed, is believed by some to have led to the idea of shingling; that is, overlapping one layer with another in order to make a roof water-proof. Certain it is

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that man learned to roof his buildings only by the closest observation, and acquired skill only by long practice.

If man in early ages of the world learned to use wood in the form of shingles, covering his buildings somewhat as the scales of a fish cover and shield its body, so, by observation, must man have noticed that bitumen and asphalt, and similar earthy products, have the power of resisting the penetration of moisture, and that they, too, are good roofing materials. It is hard to determine what are the earliest records of roofs even in the literature with which we are most familiar. Bitumen and asphalt certainly date far back; an ancient structure, which all of you will recall by a single allusion, was pitched within and pitched without, and became water resisting both in the hull and in the roof.

What is of more interest at this time, than the consideration of the historical aspects of roofing and the origin of different kinds of roofing, is a survey of the different descriptions of roofing which are in common use throughout our own country at the present time. If one takes the trouble to glance at the advertisements in the different architectural and trade papers, or to look through the numerous circulars which enterprising manufacturers are constantly sending out, he will be impressed with the idea that almost every material known is being used one way or another for roofing. In the first place we have wood in various forms, ranging from the shingle to the elaborate patented wooden roofs used on cars, portable houses and in other places. Next we have metal, running through all the varieties, from cheap iron on one extreme, to high-priced copper on the other, and embracing different styles of tin roofs, as well as many combination schemes, the list of which would require considerable time to relate. The natural resources of the earth are utilized for roofs in the form of *slate* and *bitumen* or asphalt; secondary resources of the earth are also used for roofing as in the form of coal tar cements and in earthen tile. Paper enters into roof construction in combination with other materials; and wood pulp is formed into sheets or boards and constitutes a roof which some insurance companies have indorsed in very strong terms. India rubber is used for roofs; felt is the foundation for many kinds; pine tar competes with coal tar, and so the list might be extended until a much larger class of materials is named. The question of improvements and advances made in roofing opens up a wide field of inquiry. The general question may be presented in two forms: First, can the best roofs, at the present time, be had for less money than formerly; or, second, can a roof, of the same quality, be had for less money than has been the price in other years? Still a third form of putting the question suggests itself: Will not the same amount of money, at the present time, buy a better roof than it would a short time since? The answers to all of these questions indicate a substantial advance and improvement in roofing matters; and yet when we survey the buildings of the counrry we cannot fail to be impressed with the idea that roofing, in many cases, is slightingly done, and that, on the average, roofs are of poorer quality at present than formerly. When it comes to a more careful inquiry, the investigator is compelled to admit that some buildings are magnificently covered at the present time, as well as magnificently designed and built; but, in our country at least, it is the fact that these buildings are comparatively scarce.

To trace the direction in which improvements and advances have been made in roofing is comparatively easy, so long as the inquiry is restricted to general lines. The question becomes complicated, however, when details are entered into. Restricting the inquiry to the most general terms, the kinds of improvements made in roofing of late years are principally those which cause the same material to be furnished at a less price than formerly, growing out of the substitution of machine work for hand work. A conspicuous example of this is found right here, in Cincinnati, the home of the iron roofing industry. I do not know how many tons of iron roofing are annually produced here; but it is sufficient to say that the industry is second in importance to no other of its general class. To such perfection has the business been carried, that iron roofs are manufactured and sold at a very small advance upon the cost of the material in the flat. Other instances might be cited, an extreme case being the comparison of the price of shingles, at the present time, with those known to a previous generation. The sawn shingles of the lumber regions of the North cost but a trifle compared with the slabs laboriously wrought by axe and drawknives fifty and one hundred years ago, when the eastern and central parts of the country were on the outposts of civilization.

Another phase of the improvements and advances that have been made in roofing, is the better knowledge that exists at the present time concerning the materials that are used for roofing and their behavior under adverse conditions. The technical knowledge of roofing manufacturers and those who make a business of laying roofs at the present time is far in excess of that of any previous age of the world. Roofing in all the leading branches of the trade is no longer an experiment, but it is reduced to a definite science and results can be accurately predicted.

While dwelling upon the improvements and advances made in roofing, I should be doing an injustice to a large class among the practical roofers of the country, and those engaged in handling roofing materials, if I did not refer to the improvements which have taken place, in the last few years, in tin plates. Formerly it was almost impossible to buy a respectable roofing plate, no matter what price the roofer might be willing to pay, nor how carefully the architect drew his specification. Now I am persuaded that the very best quality of plates can be obtained without difficulty. Carrying the inquiry a little further, and carefully questioning those who handle roofing plates constantly, I am assured that better plates are being imported at the present time for roofing purposes than were ever brought to this country before. One evidence of this is in the fact of the guarantees which importers unhesitatingly apply to their plates, and the care with which they brand individual sheets and mark the weights upon the packages. All this indicates good faith and is a matter of congratulation to the building trades at large.

The conditions under which roofing, to be satisfactory, must endure in this country are extreme. Take it in the Northwest, for example, say in the climate of Minnesota. In summer it is not unusual for the thermometer to range as high as 90 degrees; while in winter the mercury falls as low as 40 degrees below zero. Here is a range of not less than 130 degrees difference in the temperature, producing expansion in summer and contraction in winter, which test roofing material in a way that is easier imagined than described. Hence it follows, that materials which are entirely satisfactory in the South, where there is practically no winter at all, fail utterly when they are used in a climate such as I have described. On the other hand, it is possible that precautions that mechanics in the Northwest are obliged to take in laying roofs would not be necessary, were the roofs laid where less variation of temperature prevails, or where there is less cold weather.

In my own experience, covering a period of a number of years, I have found metal roofs, using the term broadly and without reference to the manner of laying, less successful in the Northwest, than I believe them to be in the East and in the central and southern portions of the country. This I attribute to the strain upon the seams, or the fastenings, incident to the variation in the dimensions of the metal, on account of the changes in temperature, and we never recommend their use in the Northwest except on roofs of steep construction. On the other hand, what are known as composition roofs, and especially those of genuine Trinidad asphalt for semi-flat surfaces, the first of the kind being laid in St. Paul as far back as 1879, have given excellent satisfaction; and where roofs of this kind are laid as they ought to be laid, by which I mean with due provision in the construction and framework of the building itself, they come nearer answering a satisfactory purpose than any other material that I can describe. Coal-tar pitch roofs, if laid of the very best material of the kind, and properly applied, have also features of excellence. Pine-tar roofs have been used to a certain extent, but they are of a character which, so far as my observation has extended, I cannot recommend. It is, as I am informed, customary, if not necessary, to provide a mixture of resin and lime, with the pine tar, in order to give it sufficient body for successful use; and it seems to me that it would require a long argument to convince anyone that, of these ingredients, lime is of any advantage as a roofing material.

In the use of composition roofs — by which term I refer broadly to those roofs employing a felt saturated and covered with cement and finished with sand or gravel — much depends upon the quality of the individual ingredients and the care with which the work is performed. This may be considered a truism, and something that with equal propriety might be said of every other roofing material; but it seems to me to be specially applicable in this direction, and it is to this, perhaps, more than to any other one thing, that successful roofers in the Northwest owe their prestige.

I would not be understood as condemning metal, or more particularly iron roofs. What I have said concerning this material is more in contrast with other materials which seem to answer a better purpose, under the peculiar conditions of the climate in the Northwest, than as an absolute criticism of their fitness for use. Iron roofs have their place; and in the finish of grain elevators, in the roofing of car sheds, or warehouses requiring roofs of steep pitch, they answer a most satisfactory purpose. I might make similar allusion to other materials less conspicuous as candidates for general favor, but it is scarcely necessary to occupy time in that direction. In passing, there is one matter to which I would direct attention, and which, perhaps, is of special interest to this body, and that is, the practice of warranting roofs. It is the custom, in St. Paul and vicinity, to warrant roofs against everything except mechanical injury. The warrants are so broad that, in many instances, even a mechanical injury is made the basis of a complaint against the roofer upon the part of the house owner. Carelessness upon the part of the householder is often the cause of the leak in a roof, for which the roofer is held responsible. A case in point will illustrate my meaning: I inspected a roof, some time since, which was complained of as leaky. Examination showed that the leak came from a scuttle, the cover of which was lying upside down, some ten feet from its proper place, and half full of water. Still another instance may be referred to: In a certain case a roof was damaged by stones falling upon it, thrown from a blasting operation carried on in an adjoining lot. Numerous instances have come to my knowledge where the roofing was cut through by tools used in cleaning away snow. Where guarantees exist, householders and tenants seem to be careless in what is done to the roof. A suit has recently been threatened, regarding a roof which has made trouble under somewhat peculiar circumstances. The roof is inclosed by fire walls and it has comparatively little fall. The snow banks up between and next the walls above the roof line and flushing, and, as the building is heated, this snow naturally melts from the under side. An examination of the roof revealed the fact that nearly eighteen inches of water were standing on it, caused by the outlets being stopped with ice and the heat from the under side melting the snow. Continual freezing and thawing, incident to such a condition of affairs, is a strain upon a roof scarcely paralleled in building operations. In this case it is evident that under the system of warranting roofs, the roofer is held responsible, in part at least, for a defect in the original plans. It is the custom in the Northwest for coal-tar roofs to be warranted for five years; natural asphalt roofs for ten years, and metal roofs to be warranted for three years. I think this custom is unreasonable; and if it exists in other parts of the country, I suggest that it would be to the advantage of builders and roofers alike, if this organization should set its face against such a custom. I am in favor of the roofer being held responsible for his work, but not beyond a term which is sufficient to define the actual quality of the work performed. I think the limit of responsibility should be no longer than one year, irrespective of the kind of roof. The fact that natural asphalt roofs are warranted for a longer term of years than metal roofs and coal-tar roofs combined, is evidence of their quality and the confidence which their layers have in them.

One strong argument for limiting the responsibility of roofers to a short period of time, is the saving to them of trouble and annoyance in caring for and inspecting roofs, for injury incident to concealed facts. If the householder or tenant can put the responsibility of a leaky roof upon the roofer he will certainly do so rather than bear the responsibility himself, even though he is solely at fault. Imperfect building construction frequently damages roofs. For example: A building may settle so as to

move the roof timbers, and this will cause the roof to crack, or break, or tear away from the walls. Certainly the roofer, who had nothing to do with providing the foundations of the building, nor yet in designing or superintending its construction, should not, in justice, be required to keep such a roof in repair, free of cost to the owner.

And now to sum up, we would remark that the roof of the prehistoric period, the roof of interlaced twigs and branches, that of thatched straw or of clay and sod, all had their uses and advantages no doubt, and chief among these may justly perhaps be considered their simplicity. So far as advised the practical roofer in thatch or sod was not much hampered by specifications requiring a particular brand of sod, or an especial gauge of straw. It made little difference to him, and perhaps less to the supervising architect, whether he used "Old Method" or Common I. C.

Just imagine the artisan of that, to us, early period of the world's existence, talking about the "Old Method" or the "Old Style" brand of roofing materials, or Noah, gravely insisting that none but "Straight Pitch" must be used, and no "cut back" should go onto his pleasure yacht. Far be it from me to insist, however, that these primitive styles of roofing were in all things superior to those of the present day. We roofers, who are members of this association, wish it understood that, like the widow, who in six lines announced the death and funeral of her late husband, and that she would continue his business at the old stand, we are still ready to take contracts for modern forms of roofing, and if you insist upon a warranty, would suggest that the members of this association and affiliated bodies, are generally, financially and otherwise, able to make a guarantee good.

The Progress and Advancement in Plumbing.*

BY J. R. PHILIPS, OF PROVIDENCE, R. I.

PROGRESSION and success go hand in hand, and one cannot be successful without being in some manner progressive. Search the world over, and the fact will come back to you, if not with added force, at least with striking realization, that our most successful merchants, manufacturers, professional men, and mechanics, are those in whom the most prominent trait is progression.

This assertion, more than ever, holds good of plumbing in its true sense, and if, as some assert, plumbers are successful, in a pecuniary point of view, I must as confidently say, that they are at the present time as progressive, probably more so, than the average mechanic.

Plumbing is indeed a progressive science; few realize the rapid strides which have been made during the present generation, few indeed understand the pre-requisites, essentials, and training, which combine to make the competent and successful plumber.

Knowledge acquired from long training and study, experience gained, after continuous and patient research, honest desire for success, a susceptible disposition to accept the results of the investigations of others, have contributed in the make-up of the plumber of the present time.

The plumber of the past was a workman, plain and simple, versed, we might say, almost to perfection in the use of tools and the performance of his work. Beyond this the demands of his business never led him. Every job was done alike, varied by a regard for decorations, and a dexterous manipulation of lead pipe; the demands of his calling made him a plodder, honest and industrious, but as regards new methods, new ideas, obstinate, as a rule.

Today the science of plumbing demands, that the plumber should be not only a workman, but that he shall be a skilled mechanic, and beyond that he shall be familiar, if not from actual study, at least from experience in certain laws of physical science, laws which govern hydraulics and ventilation.

The modern science of plumbing abounds with many examples, which call for the most thorough and complete knowledge of these laws.

The plumber of the past had but to provide the necessary supply and waste pipes, to hide them from view, if such were a possible thing, and to set his fixtures neatly to accord with the construction of the building in which they were placed.

The plumber of today must thoroughly ventilate, not only the traps and the system of soil and waste pipes which he puts in, but also must ventilate the building itself in the most approved manner, insuring beyond the possibility of a doubt security against those poisonous gases, which recently acquired science teaches us we must so faithfully guard against.

He should know the laws of hydraulics, that he can understand the capabilities and capacities of supply pipes, the flow in them under varying heads, the loss due to friction, that allowances may be made for the same.

He should understand and know the principle of circulation of hot water, that the best results attainable may follow his work.

He must combine with these a knowledge of sewerage and drain laying, as applied to buildings, that he may take a commanding part in all that has to do with sewerage disposal, and to them all he must add a trained knowledge of legitimate business for his own protection.

If there has been progression as regards the plumber, there has also been great advancement in the methods of executing plumbing, and also in the manufacture of the stock and material used.

The introduction of water, for domestic purposes, has superseded the force-pump and tank for the cold water supply, although tanks are used in many places where the pressure is too great for safety. Pumping the water was laborious, and the supply was limited. The water stored in the cistern soon became stagnant and unfit for use.

A sufficient supply of hot water is very essential. Years ago the tank or boiler was located at an elevation high enough to supply all fixtures; long pipes connected it with the water-back, circulating the water, when heated. The first change from this open head boiler, or tank, was the construction of what was called the flue boiler, located in the chimney; the heat from the range fire was carried around the body of the boiler, the flue being so constructed that all the hot gases would be applied directly to it. This boiler was close head, with feed circulation, and return pipes connected at the top, which was exposed. The next was the close head boiler, located near the range, connected to a water-back, or coil, and supplied direct, or from a tank, placed at an elevation above all hot-water fixtures.

Many improvements have been made in the construction of water-closets. The water-closet of forty years ago was the pan closet, supplied from a tank with a service box, connected by wires to the valve, with cranks and ball lever operated by the pull on the seat. The inflow of water to the service box would be more than the service pipe could discharge; that when the valve was closed, enough had accumulated to refill the bowl.

The first improvement on the service box closet, that came to my notice, was known as the Croton. This closet had a chamber, back of the seat, extending up some two or three feet, supplied with water direct, and served as a reservoir for flushing and supplying the bowl.

After the Croton, valve closets were introduced, of which there were many designs; they are operated with a pull on the seat, raising the valve by a stop on the lever, or by a cam on the arbor. These valves are slow shutting, and allow the water to pass through them, flushing the closet until they become seated. The hopper closets have been used very extensively, being operated by means of a hopper cock, or a valve connected with the seat. All of these styles of closets were of cast-iron. The manufacture of water-closets and hoppers, entirely of earthern ware, is a great advance. Many improvements have been made in their construction, artistic as well as useful, some beautifully embellished to make them attractive; supplied with water from a small tank through a slow closing valve operated by a chain and pull, the flushing of the closet is easily and quickly regulated.

The construction of bath tubs has kept apace with the improvements. The tin bath of former days was supplanted by copper tubs of similar form, and these were superseded by wood tubs, lined with sheet-lead, and later with tinned copper. Iron baths are used to some extent. The introduction of porcelain baths, and those of enameled iron, denotes progress, they being clean, neat and durable.

Many changes in the construction of wash basins have been made. To the round bowl, with the common plug, was added an overflow connecting to the waste pipe, and afterward made as part of the basin, connecting directly with the plug. The oval basin was introduced, and more recently the new pattern with standing overflow and plug combined, thereby overcoming the difficulties of plug and chain operated over the slab. There are many devices of this style of basin, which are being brought into general use, and are accepted as a decided improvement over the old form of basins.

One of the most important and essential parts of good and thorough plumbing, and upon which *may* rest the success or failure of the work, are traps for the various fixtures. Perhaps throughout the whole range of plumbing, there could not be found one to which more careful study has been devoted. The former practice was to manufacture the trap to suit each immediate case in question, by bending the lead waste pipe into such form as was needed. Experience has taught us that the trap must be self-cleansing, must resist syphonic action, and there have been introduced many, mechanically constructed, designed to overcome this trouble. The utilization of the "back air pipe" on traps is also an outcome of the desire to insure against syphonage.

Cast-iron soil and waste pipes have come into general use, being more durable, stronger and less liable to corrosion by the action of sewer gas. The heavy patterns were made after the light patterns had been used for years. They are considered preferable, being less liable to breakage in handling and calking. Cast-iron pipes, enameled, have been manufactured more recently, and are receiving some notice. Wrought-iron pipes have been used to some extent of late years, it being conceded that the screw joints are less liable to leak, and are more perfect than the calked joints of cast-iron pipe. The great variety of fittings adapted to the many positions demanded, have been of great benefit to the plumber and his work.

Another important element added to the manner of performing plumbing work, has been the introduction of the principle of ventilation to the systems of soil and waste pipes and traps. The absorption of poisonous gases by the water in the traps, and the chances of their seal, demanded the extension of the soil and waste pipes up and through the roof, to relieve them from the pressure of sewer or cesspool. Back air pipes are also used to assist ventilation and prevent syphonage. Some condemn their use, claiming that traps should be so constructed that under all circumstances enough water should remain in them to insure their seal. Foot vents or fresh air inlets are used to perfect the ventilation of waste pipes, but their use has been condemned by some and extolled by others.

I might say more in regard to the improvements which have taken place in the manner of executing plumbing work. I might go into details and trace the cause and effect of the many changes, but it would be but a reiteration of the facts which would show beyond a doubt that there has been progress in the science of plumbing, which is truly wonderful, and has kept apace if not in advance of the other mechanical trades.

I cannot at this time forbear saying something in favor of the higher education of the plumber. At the present time, the subject of industrial education is being agitated and its methods put in force. I earnestly commend to all, for careful consideration and thought, the needs and necessities for modern plumbing, calling for information and experience of the highest order, and of which the foundation, I am pleased to note, of such a school in the city of Cincinnati has been established.

The plumber's apprentice looks in vain for the chance to obtain such an education. No opportunity is offered for him to learn the theories of the business to which he is to devote himself. He has to depend upon himself, with no incentive, except his own will, to obtain the knowledge which shall make him a good workman. It is true that something was

* Paper read before the second annual convention of the National Association of Builders at Cincinnati, February 8, 1888.

done, and we are now, thanks to the liberality of some philanthropic gentlemen, without example in this respect.

The trade school established in New York has been very successful in supplying the long needed want — a school wherein are taught the principles of mechanical trades, including plumbing. It furnishes such information and practice which cannot be obtained, either from want of time or from the obstinacy of the experienced workman. The interest taken in that school by the master plumbers of that city is commendable. Such schools should be established in every city; it would be a boon to every mechanic, and indirectly to everyone, through better and more intelligent workmen.

Painting.*

BY J. G. MCCARTHY, OF CHICAGO.

PAINTING, like charity, covers a multitude of sins, and like sin, too, it is of very early origin in the world's history. As a further evidence of this idea, it is related that the devil in preparing for one of his periodical visits to earth, had his tail painted a beautiful pea green, so as to appear neat but not gaudy.

The best authenticated record places decoration before dress in the order of time, and throughout the entire history of mankind this order prevails.

Many ancient and modern barbarian nations, with little or no knowledge of dress or clothing, were willing to undergo great physical torture in being tattooed, and races of naked Indians have been found who, quite regardless of physical comforts, were willing to labor several weeks for sufficient pigment to paint their bodies with; also squaws who would come out of their tents without a vestige of raiment on, but would not think of appearing in society without having their bodies painted in brilliant hues; and, indeed, in our own times, lovely woman, and to some extent unlovely man, devotes more time to the painting and decorating of their persons than do they to the comfort and convenience of their wearing apparel.

This idea of decoration prevails in the mental world also, and at the present time the minds of children are dressed as the tailor dresses their bodies — in the prevailing fashion — quite regardless of the utilities of existence, so that it is much easier to find a young man who can conjugate a Greek verb or prattle about protoplasms than it is to find one who is capable of executing a piece of mechanical work in a proper manner.

Our subject, from an historical point of view, or at least the mechanical features of it, are rather difficult to approach or gather data upon, not through the lack of works treating on the matter — for the books pertaining to the subject are legion — but because the great majority of authors thereon deal with it from a purely emotional standpoint, resulting in a greater waste of pure white paper and printer's ink in writing about painting under the head of "fine art" than there is consumed legitimately in dealing with the entire range of mechanical subjects.

We can safely say of a large percentage of the books written on the subject, in the words of Charles Lamb, "No gentleman's library should be without them, and no gentleman should read them."

Thus, at the outset, we are forced to admit our inability to give satisfactory historical information on the subject, as we understand it in the mechanical world, and it is very fortunate that such is the case, for thereby you are spared the agony which always results from interlarding the conventional saws about the Greeks, Romans, and several other very old and respectable people, which generally crawl into papers on any and all subjects.

It is *prima facie* an evidence of great learning, if not of wisdom, to speak and write about Greece and Rome, but we must reconcile ourselves with being radically prosaic and commonplace, and at once endeavor, at the risk of being thought unartistic, to look at our subject from a purely mechanical point of view.

The ideal Madonna of the painter, on canvas, impresses the beholder quite as forcibly with the dignity, chastity and motherly devotion of a good and pure woman, as does the prayerful invocation to the virgin, and the mental agony of Hamlet can be as well depicted by this art as through the burning words of Shakespeare, and again, the good digestion of an Englishman is as vigorously set forth by the painted fish and game of his dining-room frieze as it could be through an exhaustive treatise on his food assimilating powers by an eminent physician. This same fish and game frieze is only one of the many absurdities existing in household decoration, and to such an extent is the idea of conforming the decorative features of a room to its uses carried, that we are told of a painter receiving an order to paint flesh brushes, bars of soap and crash towels on a bathroom border. Another element of so-called decoration is the desire of many unthinking and ridiculous people to interlard their particular vocation or calling in the decoration of their homes, and a case is recorded of a retired army officer who had twenty-six cannon painted on his dining-room walls, at the mouths of which his three elderly maiden sisters were forced to sip their morning tea.

There is not time, nor is this a fitting opportunity for expatiating on the multifarious ramifications of our subject in this respect; suffice it to say, however, that in this, as in all things else, "consistency is a jewel," and compelling the elderly maidens to smell powder, while partaking of their morning meal, is nearly akin to inviting a friend with weak digestive organs to breakfast on tea and toast, in a room decorated with painted fish and vegetables.

> "In the elder days of art,
> Builders wrought with greatest care
> Each minute and unseen part;
> For the gods see everywhere."

The nearest approach to a well-developed god, in this respect, among all the building trades at the present time, is perhaps the painter, and we have only to call in the testimony of the other trades to bear us out in this assertion.

The mason who puts down your foundation walls, and in the hurry of modern custom, forgets the exterior cementing, will, in the most complacent manner, tell the owner or architect to have the inside of the wall painted to prevent moisture. The cutstone contractor who puts an invisible patch in the corner of a bond stone, will tell you to have the surface painted for the sake of uniform appearance.

The architectural iron worker, who neglects to work to his drawings in molding the columns and beams, cares not that they are from a quarter to one-half inch narrower than the plans call for, as long as they contain the requisite weight of iron, for the reason that the painter can fill up the space by using the next larger size plate glass, at his own expense, because he has agreed to paint and glaze the building according to plans and specifications, and, by the way, these same specifications contain more combined terror to the average painter than the entire code Napoleon and the common law of England does. The bricklayer, who forgets to fill the spaces between his wall and the door and window frames, in like manner tells you the painter can fill them up with putty; also, the galvanized iron cornice maker, as well as the metal roofer, will economize by leaving their joints unsoldered, because the painter follows after them and can remedy the defects with putty and paint, and it is still an unsettled question whether the skylight leak is caused by defective glazing or through the inferior work of the tar and gravel roofer. The inside of a building also bears evidence of the truth of this idea.

The carpenter, whose specifications call for first clear lumber, which cannot be found, uses the next best obtainable quality, and at once, upon its arrival on the ground, wants the very thing of all others which should not be done, the priming to prevent shrinkage, the only thing it needs to make good lumber of it, attended to promptly.

The plumber, whose iron pipe, with a connection on either end, has been wrongly measured, will saw it in twain, file it neatly, and set it up, strong in his faith that paint will remedy the defect as far as appearance goes.

The plasterer, the position of whose angles bears a striking resemblance to the leaning tower, whose cornice moldings look like an amateur's painting of a New England rail fence, and whose walls, on having the straight edge applied to them, show spaces large enough to pull the biblical rich man through, will tell you the painter can remedy these slight defects when the decorating is being done. An architect who revels in Grecian domes, Roman columns, Moorish fretwork and all the other isms and schisms of the profession, undertakes to utilize the entire category in the construction of the twenty foot front of a suburban villa, to be erected, at an expense of $700, for the well-known firm of Ten Per Cent & Co., and sold by them on monthly payments of $15 each month, and when all else is arranged, the architect sits down and writes specifications for the painter about as follows: All the materials, tools and appliances necessary to the full and complete performance of the conditions hereinafter set forth, must be furnished and supplied by the painter. All interior woodwork (floors excepted) of every kind and description must receive one coat of pure gum shellac, cut in pure alcohol, after which it must have four coats of Skin the Painter & Co's best light hard oil finish, brushed on smooth and even, and rubbed thoroughly smooth between each coat, and in the final finish must be rubbed with pumice and oil to a dull smooth piano finish.

For the full and complete performance of the foregoing, it is hereby agreed by and between the parties to this contract, that he (the painter) shall receive the sum of $57 in the lawful money of the United States.

A celebrated unbeliever has said "an honest god is the noblest work of man," and in harmony with this idea, if we must constitute the painter a god with an all-seeing eye in building matters, it is very important to have a god who will fill the letter and spirit of the foregoing definition; but alas! sorry as we are to record it, they do not in all cases come up to this standard.

It is related of a painter who was being brought to task for not sandpapering his work, that he told the owner of the building (a widow lady): "I always put the sand paper in the last coat of paint," and leaving out the paper this is, in many cases, strictly true.

As was said at the outset, the features of the painting trade most interesting, perhaps, to this convention are the hardest to reach, and much as it may be desired, it will be very difficult to give anything like accurate statistics as to the total number of men employed, rates of wages paid, or the position numerically of the trade in the list of building industries of the country. The best recent figures obtainable, place the number of men employed in the house-painting trade in New York City at 9,000; number of firms carrying on the business, 733; amount of capital invested, $3,000,000; amount of wages per year, $7,200,000, and average wages, $12.00 per week of fifty-nine hours. In Chicago there are three hundred firms carrying on the business, and they employ about three thousand men, whose average wages are the same as those in New York City.

Taking these New York and Chicago figures as a basis of computation, in connection with the United States census of 1880, we find that at the present time about four thousand firms are engaged in the business, with an invested capital of $30,000,000, and employing 100,000 men, whose average wages will be about $500 per year each, or a total of $50,000,000 in wages alone for one year; adding to this about $60,000,000 for material and appliances, we have a total of $110,000,000 per annum, to which may be added $40,000,000 for window glass consumed by the trade, making a grand total of $150,000,000 as the net cost of the painters' annual tribute to the building industries of the country.

This is certainly a sum sufficiently large to justify the public in demanding of the painter such careful and intelligent consideration of these interests as will be commensurate with the expenditure of so large a sum, and it is for this reason that the painter desires to lend his feeble cry in conjunction with the other building trades and professions, through the instrumentality of this National Convention of Builders in endeavoring to bring about a reform of the abuses and questionable acts which are to be met with on every hand by the honest architect and contractor. While respectfully demanding for the painter what he is willing to concede

* Paper read before the second annual convention of the National Association of Builders, at Cincinnati, February 8, 1888.

to others, the consideration and recognition which his branch of the building industry merits, the painter will ever be found ready to lend all the assistance in his power to this and similar organizations in their honest efforts to place both employer and employé in this branch of the nation's industries, equal to any and second to none other of the many elements which contribute to the greatness and prosperity of our entire country, we will conclude with the words of Longfellow:

"To build, to build,
That is the noblest art of all the arts;
Painting and sculpture are but images,
Are merely shadows cast by outward things
On stone and canvas, having in themselves
No separate existence."

Second Annual Convention of the National Association of Builders of the United States of America, held at Cincinnati, February 7-8-9, 1888.

COMPILED FROM THE OFFICIAL STENOGRAPHIC REPORT FURNISHED THE ASSOCIATION BY "THE INLAND ARCHITECT AND NEWS RECORD," OF CHICAGO.

THE second annual convention of the National Association of Builders held its session in College Hall, Cincinnati, commencing February 7, at 10 o'clock A. M. At the entrance to the hall the arch over the doorway was decorated with flags and evergreens, and across the grouping of flags, in white immortelles, were the words "Welcome N. A. B." In the hall the decorations were profuse and attractive. Above the windows and doors were grouped flags and evergreens, and festoons of evergreens were hung from the corners to the central chandelier. On the platform, which was flanked and framed with a forest of plants, its edges hung with evergreens, were a number of easels bearing framed designs sent by the Cincinnati architects, while in the rear of the hall a large exhibit of architectural work was attractively arranged, all of which were contributed by the architects of Cincinnati.

At the reporters' table were the representatives of the *American Builder*, of Cleveland, and THE INLAND ARCHITECT, of Chicago (the only class journals represented at any of the sessions of the convention), Messrs. S. T. Carey, Jr., of the Cincinnati *Enquirer*, Harry C. Miller, of the Cincinnati *Commercial* and N. P. Runyan, of the Cincinnati *Times-Star*. V. J. David, of THE INLAND ARCHITECT, was the official stenographer.

President J. Milton Blair, of Cincinnati, occupied the chair, and previous to organization Secretary W. H. Sayward, of Boston, called First Vice-President John S. Stevens, of Philadelphia, and Second Vice-President E. E. Scribner, of St. Paul, to the rostrum, where they occupied seats during the convention.

The secretary also announced as his assistants, William Harkness, Jr., of Philadelphia, and Charles W. Voshall, of Rochester.

The president called the convention to order, and introduced the Reverend Dudley W. Rhodes, who opened the session with prayer.

The president then introduced Mayor Amos Smith, of Cincinnati, who made a speech of welcome. He spoke of the importance of the home, the responsibility resting upon the builder, and gave all a hearty welcome. At the close of mayor's speech he was given three cheers and a "tiger."

The president then in the name of the Builders' Exchange, of Cincinnati, welcomed the delegates, and said that the Cincinnati ladies would coöperate with the members of the exchange in making the recollections of Cincinnati pleasant to the visiting ladies, for whose comfort full arrangements had been made. The president then delivered his address, as follows:

PRESIDENT'S ADDRESS.

Gentlemen of the Convention,—I will ask your attention for a few moments while I briefly review the condition and work of the association, as developed up to the opening of this its second convention. Without specially referring to that first gathering in Boston of a preliminary conference which decided that it was wise to attempt the establishment of a Central Association of Builders—I will touch upon one or two facts in connection with the first convention, held in Chicago last March, which convention consummated most successfully the plan formulated at Boston.

The first convention was largely devoted to organization and the outlining of guiding principles; and in the deliberations of the convention the delegates from twenty-seven of the principal cities of the country took part.

The delegations from two of these cities were evidently displeased with the plan adopted of having the basis of representation come, when possible, from exchanges which represented the combined interests of all kinds of employing mechanics in trades concerned in the erection, construction or completion of buildings. These two cities are the only ones of those represented at Chicago which have failed to respond to the prorata assessment on the ground that the basis of representation was not correct, and even these two may finally obtain representation through other mediums than those present at the first convention.

The wisdom of adapting a basis of representation in the National Association dependent on exchanges or associations in the various cities of the country, which there represent the combined interests of all the building trades, has been more and more manifest throughout the year. We, as builders, are a mixed class, and must always so remain; one of our greatest elements of strength, indeed, lies in this fact, for we are dependent on one another in the common ordinary practice of our trades, and we can no more be divorced from each other in the higher aims and interests of our callings, than we can be in our common, every-day contact in the conduct of our work. We need each other's experience, and we need to consider each other's interests all the way through, particularly in dealing with questions which touch the vital principles of our business life. It is a great safeguard too, in such an association as ours, to have constantly before the mind the diversity of interests, that we may be careful in our acts to do no injustice, avoiding special legislation, knowing well that what may be the healing of one may be the hurting of another. All the varied building trades are indeed one great family, and it would have been the greatest unwisdom to have taken into our councils only a portion of the vast interests which truly belong together. Two or three other cities have failed to preserve their affiliation through lack of thorough organization. To offset these changes there is much to report of an encouraging nature. Cities whose exchanges existed upon insubstantial basis have made important changes in the line of improvement, and others, in which no exchanges existed, have formed them in time to take part in this convention, or are forming them for future work. The whole tone of the exchanges has been brighter, and more interest is being manifested than has ever before been known, in putting associations of builders into effective conditions. Much of the work in this direction has fallen upon the secretary, W. H. Sayward, whose services to this association have been invaluable, and whose indefatigable labors have made our organization an assured success, and what could not be done by correspondence, has been accomplished by personal visitation and practical aid in the locality needing such assistance.

Much has been done, but the awakened interest is so widespread that much remains to do, and I think that every individual must clearly see, that one of the chief dependencies of the National Association is in well-organized, live associations in every city in the land. Of course, it may be said that a dozen of the principal cities could formulate all action and have sufficient weight to produce a certain result, but even in that event it would not be a wise thing for the smaller cities to be without the aid of thorough local organizations to emphasize and perfect the recommendations of the Central body. But for their own welfare builders in all cities should create exchanges for the purpose of mutual support, as well as for business convenience, and then join the National body for the purpose of adding strength to it, gaining strength from it, and securing a better understanding of all subjects of common interest to builders, by taking part in its conventions, coming in contact with the ablest minds among builders selected from all parts of the country, for the discussion of questions of need and importance to the craft.

There is hardly need, perhaps, for me to emphasize the desirability of exchanges in all cities; that seems to be pretty thoroughly appreciated. The chief thing to do will be to provide information and assistance in forming or reforming these associations upon a sound and substantial basis.

During the year the value of our central organization has been variously manifested, particularly, I think, in its having produced a salutary effect, by keeping in check, through the mere fact of its existence, the widespread blockade of business which was threatened during the winter.

There has seemed to be a hesitancy upon the part of labor organizations to advance with quite so pronounced effrontery as before the establishment of our body and the announcement of its principles. Our existence, too, has given strength to other organizations of employers outside of our particular circle, and we have been a benefit to othres where, perhaps, we had no anticipations of being serviceable. Upon one occasion, in particular, our bond of union has proved most effective.

When Chicago was made the field of one of the hardest and longest struggles that any of the builders of the country have ever endured, from every city of our affiliation came quick messages of approval and words of cheer, words and approval that never would have appeared had it not been for our association together and the friendship and mutual support established

To Chicago also went the Executive Board of the National Body, at the request of the Chicago Exchange, to examine the situation and give such counsel and support as might be possible in the emergency. It would be unfair to the indomitable courage of the Chicago builders to say that they could not have got along without this support, or that the result was more pronounced on account of the visit of the officers of the National Association, but it can fairly be said as a statement of common fact, that such a visit, made at such a crisis, was invaluable in the moral support and stimulus conveyed. It has been truly said that brave soldiers would frequently run away from a battle if it were not for the other soldiers being present to witness their cowardice; so it is a great element of strength with any group of builders, in any city, to know that their associates in other cities are looking with earnest solicitude upon their action and depending upon their courage, and especialiy is this fact an element of strength when these groups of builders in other cities are recognized not simply as men in the same general line of business, but as men who are members in common with them of a central association, an association which has sent its officers to confer with and encourage them.

Chicago's builders did yeomen's service for our cause, and in the final settlement established a principle of arbitration which has the germs, at least, of justice and right and peace, and suggests the means which may properly be adopted for averting the constant disaster to which the building trades have for many years been subjected. There have been no other cases where the good services of the National Body, during labor troubles, have been so prominently exerted as in Chicago. St. Paul has had an irruption, but of comparatively short duration, and the National Executive was not summoned. The other cities in the country have been free from anything general in the nature of labor troubles, and I am inclined to argue that the existence of our "National Organization" has been to some extent responsible for this freedom.

In October last, learning that the Western Association of Architects were to have a meeting of their Executive Committee in Chicago, and that about the same time the American Institute of Architects were to hold their annual convention there, I appointed a special committee to obtain a hearing before both bodies, if possible, upon the subject of uniform contracts.

This meeting was obtained, and the subject was discussed in all its bearings, the result of which will be placed before you in the report of that committee. I shall not be anticipating the report, perhaps, in saying that one result of the meeting was readily discernible in the increased respect with which your representatives were received, when their matured and definite views on the proper requirements of contracts were placed before these committees from the architect's associations. Your other committees have met and been frequently in communication during the year, and the result of their work has, to a certain extent, already become known to you through the printed reports which have been distributed to all exchanges, in order that there might be ample opportunity for consideration. This seemed a wise proceeding, in view of the importance of the subjects treated, and it is no doubt with prepared minds that you will discuss these valuable reports. You do not need to be reminded again by me of the relation you stand in as builders toward the great industrial problems of the day. You are well aware that you are indissolubly connected with them, and it should be in the full conviction of your importance as a factor in these greatest of questions that you take up those branches of it which come nearest to your life work.

To me, it seems as though in this particular crisis that we stand in a relation of peculiar power in the fixing of the tone of the industrial harmony, and upon us depends (more than the wisest of us are aware) the future of American youth, in guiding it toward those industrial pursuits which in their ultimate perfection may properly be called arts. They have almost become "lost arts." Let us do our best and wisest towards recovering them and placing them high in honor.

Gentlemen of the convention, a year ago the National Association of Builders was an unknown quantity; its very existence was problematical, and its capacity for usefulness a matter of theory. Today, at the opening of its second annual convention, its life is full and vigorous, its composition pregnant with principles of growth and its usefulness already acknowledged by every community of importance in the land.

A year ago the work of our first convention was substantially a work of organization the establishment of structural lines upon which we were to build in the coming time, and in the setting up of a "declaration of principles" by which we were to be guided.

In our deliberations at this second gathering of delegates, we are to survey the work that has been done by our officers and committees during the year just passed, and in the light of their research and our united experience grapple for the first time as an association with questions of grave importance not only to our own special interests, but to the welfare of the nation and the age in which we are living.

We are to approach these questions as practical facts, and not as glittering generalities. We are to consider them definitely and in detail as the actual problems of our business life, upon a correct solution of which our successful existence depends.

We cannot be too deeply impressed with the serious character of the work before us, for the value of our labors will largely depend upon the intelligent comprehension of the difficulty of our task.

This is no time for mistakes. A tremendous constituency is watching us with solicitude, and a single error may be productive of widespread confusion.

We must also constantly bear in mind that other interests beside our own will be largely influenced by our action. They, too, are waiting anxiously, and will weigh carefully whatever we may do; and, while we may be assured of their ready support and active coöperation in wise action upon our part, we may just as confidently expect they will frown upon and discountenance immature conclusions, arbitrary assumptions or coercive measures. Gentlemen, the business of the convention will now be taken up.

The President: Gentlemen, we are now ready for the business of the convention, which will be first, the appointing of a committee on credentials.

On motion of A. J. Campbell, of New York, a committee of five, to which were added the three secretaries, was appointed by the chair.

Committee on Credentials: Andrew J. Campbell, of New York; W. C. McPherson, of Philadelphia; George Tapper, of Chicago; A. McAllister, of Cleveland; Thomas B. Ross, of Providence; William H. Sayward, of Boston; William Harkness, Jr., of Philadelphia; Charles W. Voshall, of Rochester.

The chair stated that the president of the Cincinnati Exchange sent an invitation to visit the new Exposition Buildings and Music Hall; also an

invitation from the local exchange to visit the theaters in the evening and a masquerade ball; also from the Young Men's Mercantile Library, tendering the use of their rooms to delegates.

The session then adjourned to 2 o'clock P. M.

FIRST DAY—AFTERNOON SESSION.

The session opened promptly on time, President Blair calling for the report of the Committee on Credentials.

This report, presented by A. J. Campbell, chairman of the committee, to which is added the full list of alternates and visitors, as reported to the assistant secretaries by the chairman of the delegations, is as follows:

BOSTON, MASS.

Delegates—B. D. Whitcomb, Asa H. Caton, Thomas Parker, L. P. Soule, D. B. Badger, Leander Greely, William H. Sayward.

Alternates—David McIntosh, Lyman D. Willcott, Ronald A. Stewart, Ira A. Hersey, John A. Emery, Melville C. Grant.

Visitors—Mrs. David McIntosh, Mrs. L. D. Willcott, Mrs. R. A. Stewart, Mrs. Thomas Parker, Mrs. J. A. Emery, Miss A. J. Grant, Miss Lucy Lauriat, Mrs. Asa H. Caton, Mrs. W. H. Sayward.

BUFFALO, N. Y.

Delegates—Jared H. Tilden, Michael McNamara.

Alternate—James A. Churchyard.

CHARLESTON, S. C.

Delegate—D. A. J. Sullivan.

CHICAGO, ILL.

Delegates—George C. Prussing, George Tapper, Joseph Downey, James John, D. V. Purrington, J. G. McCarthy, F. V. Gindele, Murdock Campbell, Matt Benner, Adam J. Weckler, William Goldie, Charles W. Gindele.

Alternates—W. H. Iliff, P. B. Wight, M. W. Powell.

Visitors—Mrs. Joseph Downey, Miss Ida Klein, Mrs. James John, Mrs. C. W. Gindele, Mrs. W. H. Iliff, Mrs. M. W. Powell, Mrs. P. B. Wight, R. C. McLean, editor INLAND ARCHITECT.

CINCINNATI, OHIO.

Delegates—J. Milton Blair, L. B. Hancock, H. E. Hollzinger, Archie Colter, William H. Stewart, J. E. McCracken.

Alternates—Isaac Graneson, Samuel J. Tappin, Frank S. Rohan.

CLEVELAND, OHIO.

Delegates—Thomas Simmons, A. McAllister, R. H. Jenks, C. C. Dewstoe, L. Dantrel.

Visitors—Mrs. Thomas Simmons, W. J. Watterson, Fred Houghton, editor *American Builder*.

COLUMBUS, OHIO.

Delegates—Thomas Knauss, W. H. Slade.

Alternates—Wm. H. Fish, Edward Herbert, J. H. Lloyd, F. W. Boyle.

DENVER, COLO.

Delegate—C. J. Smith.

Alternate—F. K. Stinson.

EAST SAGINAW, MICH.

Delegate—Michael Winkler.

Alternate—John H. Qualman.

GRAND RAPIDS, MICH.

Delegates—John Ramson, W. C. Weathuly.

Alternates—James Curtis, I. H. Hoskin, W. C. Hopson, H. E. Divan, John Harmouth.

INDIANAPOLIS, IND.

Delegates—W. P. Jungclaus, J. C. Adams, J. C. Pierson, J. S. Farrel.

Alternates—James Shover, E. Metzger, F. Woelke, John Martin, H. Howland, August Kuhan.

Visitors—Mrs. James Shover, Mrs. F. Woelke, Mrs. W. P. Jungclaus, Mrs. E. Metzger.

KANSAS CITY, MO.

Delegates—L. B. Cross, William Taylor, George W. Youmans, J. W. Fairman.

Alternates—Willam Stewart, Frank Scheneke.

Visitors—William Taylor, Jr., H. P. Stewart.

LOUISVILLE, KY.

Delegate—John E. Carpenter.

MILWAUKEE, WIS.

Delegates—Thomas Mason, Garrett Dunck, Richard Smith.

NASHVILLE, TENN.

Visitors—D. S. Wright, Mrs. D. S. Wright.

NEW YORK CITY.

Delegates—John J. Tucker, Marc Eidlitz, Albert G. Bogert, Andrew J. Campbell, John McGlensey, William Hurst, A. S. Dickinson, George Moore Smith, George H. Smith.

Visitors—Mrs. J. J. Tucker, Mrs. J. A. Jarvis, Mrs. A. G. Bogert.

PHILADELPHIA, PA.

Delegates—John S. Stevens, William Harkness, Jr., George Watson, David A. Woelpper, George W. Roydhouse, Stacey Reeves, William C. McPherson.

Alternates—Charles H. Reeves, F. M. Harris, A. H. Williams, W. B. Irvine, Peter Gray.

Visitors—John Boyd, Edwin Cubberly, E. F. Morse, James Milnamon, Joseph Brown, David Watts, A. B. Barber, John T. O'Brien.

PROVIDENCE, R. I.

Delegates—John W. Briggs, George R. Phillips, Thomas B. Ross, Richard Hayward.

ROCHESTER, N. Y.

Delegates—C. W. Voshall, J. H. Grant.

SIOUX CITY, IOWA.

Delegate—Fred F. Beck.

ST. PAUL, MINN.

Delegates—E. E. Scribner, E. F. Osborne, J. S. Burris, Asher Basford.

Alternates—S. P. Spater, J. S. Homans.

Visitors—Mrs. E. E. Scribner, Mrs. E. F. Osborne, Mrs. Nelson Stelle.

SYRACUSE, N. Y.

Delegate—James E. Baker.

WASHINGTON, D. C.

Delegates—David J. Macarty, John E. Simms.

WORCESTER, MASS.

Delegates—H. W. Eddy, C. D. Morse, O. S. Kendall.

Alternate—G. A. Bomard.

On motion the report of the Committee on Credentials was accepted and the committee discharged.

The roll was then called, seventy-four delegates answering to their names.

The secretary then announced that resolutions should be presented in writing, and in duplicate, for the convenience of the secretary and the press, and would, after reading, be referred to the Committee on Resolutions without discussion.

The President: The offering of resolutions is now in order.

George Watson, of Philadelphia, presented a communication from his exchange, inviting the National Association to hold its next convention in Philadelphia. The communication was referred to the proper committee, together with one of similar character from Denver, Colorado.

The following gentlemen presented resolutions:

A. J. Campbell, of New York, preamble and resolutions regarding the elimination of the word "master."

The secretary read a communication from Corresponding Secretary Randall, of the National Brickmakers' Association, relative to the adoption of a standard size of brick.

D. V. Purrington, of Chicago, offered a preamble and resolution, asking that a special committee be appointed by the chair to confer with the Executive Committee of the National Association of Brick Manufacturers.

George M. Roydhouse, of Philadelphia, presented a resolution regarding the collection of information in connection with the different branches of mechanics who are also contractors.

J. G. McCarthy, of Chicago, offered a resolution.

All the above resolutions were referred to the Standing Committee on Resolutions. The following resolution was presented by John E. Simms, of Washington, D. C.

Resolved, That this National Association of Builders recommend to the United States congress and to the several state governments (i. e., all the states that are represented in the association), the establishment of mechanical trade schools in the cities of 100,000 or more inhabitants, and that this association appoint a committee of five to draft this resolution for submission for action by the United States congress and the state governments. Said committee to submit with the resolutions:

1. As to the qualification of applicants.
2. The kind of trades they are to be instructed.
3. Length of time for said instruction to the junior and as to the issuance of diplomas at the expiration of the allotted time, and as to the preference given to said juniors by master mechanics and the time they are to serve their final apprenticeship.
4. The probable cost of workshops, machinery, tools, etc., and the maintenance of said schools.
5. And also as to *how* they are to be managed and by *whom*.
6. Said committee to prepare and submit in full their report to all associations represented in the convention for approval or rejection, and if approved by the majority of the said association, the said association will proceed at once to have their state government to take action upon the same, and the committee will submit resolutions to the United States congress.

Finally, said committee to report at the next convention what progress has been made.

This was also referred to the Committee on Resolutions.

On motion, a committee of five was appointed by the chair to present names of candidates for officers and place of next convention. The chair appointed George Watson, of Philadelphia; Leander Greely, of Boston; L. B. Hancock, of Cincinnati; George C. Prussing, of Chicago; John McGlensey, of New York City.

The secretary stated that through the circulars, etc., sent to the different exchanges throughout the year, the members were aware of all the secretary's report would contain.

The treasurer's report was next in order, and Treasurer John J. Tucker, of New York, submitted a report in detail of which the following is a summary: Receipts, $4,976. Expenditures, $4,604.20. Balance on hand, $361.80. The report was received and referred to the Auditing Committee, who subsequently reported it to be correct.

The President called for the report of the Committee on Statistics, and the following report was submitted by George C. Prussing, of Chicago:

GENTLEMEN,—Your Committee on Statistics beg leave to report that it has communicated with all the exchanges of the various cities represented in the National Association, and has heard from most of them in reply. Whether the formulation of inquiries was too vague to be understood, or whether the gentlemen requested to answer them did not take time sufficient to think the matter over before they replied, or whether, as in the cases where your committee was not honored with an answer, it may be that the parties appealed to differed from your committee in his estimation of the value of statistics in general, or the value of such statistics as he personally might have supplied in particular, it is not for us to say. Perhaps all these various causes contributed. We acknowledge receipt of very intelligent replies from a number of cities. But your committee is not in possession of full and exhaustive information on any one of the numerous subjects sought to be covered by their inquiries, and of possible interest to the members of the association, and finds itself obliged to make this report in general terms rather than an army of statistics, which, under the circumstances, could not help but be misleading. All shortcomings in this respect will be remedied by our successors, where the object of gathering these statistics will be better understood and appreciated, and the proper person may be selected in each city to gather them, and who (do not forget it)

will send them to headquarters for digestion and compilation promptly within the first ten days of January.

From a careful review of the reports on hand, which are submitted herewith, your committee find:

1. That the year 1887 has been a particularly busy one for builders everywhere, largely exceeding the previous season in the amounts of money expended.

2. That while the prices of labor have slightly advanced, building materials have been sold lower and the work has been done cheaper. In the larger centers this movement has been so pronounced that in a number of trades here represented profits were wiped out entirely and actual loss resulted.

3. That in some of the cities mechanics and laborers are still employed by the day and its fractional parts, instead of by the hour, as recommended by the last convention of this body, and as has proved so fair and satisfactory to both employers and employés where introduced. From some localities the practice to pay for time not expended in labor on Saturdays is reported.

4. That the number of hours work per day varies in the different cities, and varies also among the different trades in the same city. While the movement for the establishment of eight hours as a day's work among the mechanical classes has been successful thus far in few localities, and is nowhere established in all trades and manufactories, it is plain that a shortening of hours of employment to less than ten per day is looked upon favorably by the public everywhere, particularly in the North, and that this will be one of the legitimate benefits derived by the wageworker from the introduction of the manifold forms of labor-saving machinery in all departments of industry.

5. That a satisfactory system of apprenticeship does not exist in any of the trades and in no section of this broad country, and that the ways and means to be adopted to furnish proper instruction to our future mechanics is being recognized more and more as one of the burning questions of the hour.

6. That strikes are still the favorite method of protesting against and seeking redress for any abuses existing or imagined, and have been resorted to quite frequently during the last year both East and West. By far the greatest strike among building employés, both as regards the number of persons affected and in its duration, occurred in Chicago. The immediate cause, trivial in itself, was a resolution passed by the Bricklayers' Union, demanding that the men be paid weekly and on Saturdays, instead of, as heretore, every two weeks on Tuesday, coupled with the threat to strike unless complied with at once. Chicago was too busy to stop for argument. The manner of presenting this last demand, as much as the subject matter thereof, caused people to stop and ask: When this is granted, what next? If this, by quiet compliance, is admitted to be within the province of a trades union, where can a line be drawn hereafter? The demand was refused. The strike began. Employers in all other building trades, as well as manufacturers of building materials, felt that the time had come to test the power of trades unions, and that their interests and those of the immediate employers of strikers were identical. Architects and owners of buildings in process of construction seconded the efforts of builders. From a strike the struggle had become a lock-out. All building operations were practically suspended from May 10 until June 11, 1887. This is not the place to give details, particularly as they have been preserved in pamphlet form, now in the the hands of the members of this convention. But your committee desires to call attention to the manner of final settlement of this strike; the first effort to carry into practice that portion of the declaration of principles issued at our first convention, which says: "That while, upon fundamental principles, it would be useless to confer or arbitrate, there are still many points upon which conferences and arbitration are perfectly right and proper, and that upon such points it is a manifest duty to take advantage of the opportunities afforded by associations to confer together, to the end that strikes, lockouts, and other disturbances may be prevented." When the time was ripe, i.e., when all concerned, through losses sustained, had become convinced that the arbitrary action of neither can, or should, govern the other, an effort at arbitration of existing difficulties was made, and consented to by both contending parties. A committee of five was appointed by each side with full powers to represent and act for their respective bodies. These committees organized themselves into a joint committee by electing a judge, widely known for his sterling qualities and impartial fairness, as its chairman and umpire. And after a week's session of this committee, during which every point brought before it was fairly considered and disposed of, the result of its labors commended itself to both parties immediately concerned, as well as the public at large, to such an extent as to meet the approval of all. As a result of this action both organizations, the employers and journeymen, adopted amendments to their by-laws, providing for the regular annual election of a standing Committee of Arbitration, with full power to "hear all evidence in complaints and grievances of a member or members of one body against a member or members of the other, or of one organization against the other, referred to it by the president of either organization, and which shall finally decide all questions submitted, and shall certify by the umpire such decisions to the respective organizations." And further: "Work shall go on continuously, and all parties interested shall be governed by award made or decisions rendered; provided, however, that work may be stopped by the joint order of the presidents of the respective associations until the decision of the joint committee is had." Since the adoption of this plan no further trouble has arisen. The walking delegate found no further employment as such. All questions submitted have been promptly decided and disposed of. Only seven months have elapsed, and it may be too early to decide finally on the wisdom and sufficiency of the system, but those best acquainted with its workings believe it a step in the right direction, and recommend its adoption in all cases where employers and employés are sufficiently organized to make it practicable as a means of avoiding the hitherto oft-recurring and aggravating labor troubles. The excuse of your committee for taking so much of your time in relation to this strike, and without mentioning the numerous labor disturbances in other sections, must be found in the fact, that the one enlarged on is the one from which practical results were gained, and by which a better understanding was established between employer and employé. Both saw and acknowledged that their interests are identical—that both are component parts of one whole.

In conclusion, and because of tender sympathies for our unknown successors, we would respectfully suggest that better results may be obtained by abolishing the special Committee on Statistics, and charging the secretary with the employment and supervision of talent specially trained and fitted for the intelligent compilation and digestion of facts reported from our various cities. In the hands of the proper person the field covered may be greatly enlarged, and the statistics so gathered will become both interesting and valuable. Respectfully submitted.

The report of the Committee on Arbitration was received with enthusiasm, and ordered filed.

President L. C. Goodale, of the Cincinnati Chamber of Commerce, was here introduced by the president, and made a speech in which he extended a general invitation to delegates to visit the board. The invitation was accepted with a vote of thanks.

The report of the Legislative Committee on Insurance was then submitted by its chairman, Marc Eidlitz, of New York, and read by the secretary as follows:

INSURANCE.

GENTLEMEN,—Your Legislative Committee, to whom was referred the resolutions to prepare a plan of insurance for workmen against injuries by accident, and the securing annuities to workmen who may be permanently disabled through the infirmities of old age, offer the following report:

That they have fully considered the subject and find there are insurance companies who issue general policies to be maintained by the employer from collections made from the different employés, which will afford the employés and their families a benefit in case of death.

Allowance is made for all those who may leave their employ, or who may be sick, and in this way the employer has to pay a premium equal only to such amounts as he collects from the men.

The policy covers the men at all times whether at work or elsewhere. New men are insured as soon as employed, and their names placed upon the schedule.

A contribution of 15 cents per week will secure the benefit of $4 per week, and $500 to the family in case of death; 20 cents per week, $6 per week and $500 in case of death; 25 cents per week, $7.50 per week and $750 in case of death.

Special attention is called to the fact that the employer, by adding to the premium which he collects from the men such amounts as he may feel inclined, will increase the benefit to his employés.

There is no doubt in the minds of your committee, that, whenever this matter of insurance is agitated by the builders of the United States, and a demand for such an insurance created, that enterprise will soon take up the subject and companies be organized to meet the demand.

Your committee recommend that the various local exchanges take up the subject and endeavor to put the same in practical use, and for their information the officers of the National Association should print this for distribution to all affiliated associations.

On motion the report was received and discussion postponed till the afternoon session.

The following report of the Committee on Uniform Contracts was presented by E. E. Scribner, of St. Paul, chairman, and read by the secretary:

GENTLEMEN,—The importance of employing uniform contracts in all building trades in the different sections of the country has been acknowledged by both architect and builder for years.

The American Institute of Architects in convention, some years since, appointed a committee to investigate and report on the practicability of formulating such form of contract. At your first convention in Chicago, in March last, you adopted a declaration of principles which says, in Article IV: This association affirms "that all blank forms of contract for building should be uniform throughout the United States; that such forms of contract, with the conditions thereof, should be such as will give the builder, as well as the owner, the protection of his rights, such as justice demands; that whenever a proper form has been approved by this association, after consultation with the American Institute of Architects and the Western Association of Architects, we recommend its use by every builder and contractor."

The Western Association took up the subject also, and appointed a special committee on this subject.

In October last the American Institute of Architects met in annual convention in Chicago, the present headquarters of the Western Association, and your president appointed the undersigned a special committee to represent this organization at that meeting. The special committee representing the three bodies named above, met in Chicago for a full discussion of the matter. Messrs. Blair and Sayward were present, and lent us their valuable assistance. After considerable discussion, all agreed on the desirability of instituting the proposed reform, and were convinced of its practicability, sufficiently to desire a continuance of committees by their own bodies, "to prepare and adopt in such committee of conference a form of contract properly protecting the interests of owner and contractor," and "that the said committee be vested with power to print the form of contract that may be agreed upon by the said committee of conference, and distribute the same to the individual members of all associations represented, with a recommendation for its adoption."

Both organizations of architects passed resolutions as quoted, and appointed as such committee of conference:

Messrs. O. P. Hatfield, of New York; J. H. Windrim, of Philadelphia; Alfred Stone, of Providence, to represent the American Institute of Architects, and Messrs. S. A. Treat, of Chicago, J. F. Alexander, of Lafayette, and Sidney Smith, of Omaha, to represent the Western Association of Architects.

Unfortunately it has been impossible to have a meeting of the joint committees since its appointment, although considerable correspondence has been had on the subject.

Your committee believes that general good will result from this movement if persisted into a final consummation, but of necessity it will take time to accomplish the result desired.

We therefore recommend the appointment by the president of a committee, with like powers as given to the committees representing the American Institute and the Western Association of Architects, as detailed above.

Respectfully submitted,

EDW. E. SCRIBNER,
GEO. C. PRUSSING,
P. B. WIGHT.

The report was referred to the Committee on Resolutions.

The convention then adjourned to 9:30 o'clock A.M.

SECOND DAY—MORNING SESSION.

The convention was called to order by the president at 9.30 A. M., according to adjournment, and opened with prayer by the Reverend Doctor Joice, of Cincinnati.

The President: The first business in order is a paper by J. C. Adams, of Indianapolis, on brick making. (Mr. Adams' paper is printed elsewhere in this issue.)

J. J. Tucker, of New York: I move the thanks of this association be tendered Mr. Adams for his able paper, and that it be ordered printed with the proceedings of this convention. The motion was unanimously carried.

The President: The next in order is a paper on plumbing, by J. R. Phillips, of Providence, R. I. (Mr. Phillips' paper appears elsewhere in this issue.)

J. S. Stevens, of Philadelphia: I move that we return our thanks to Mr. Phillips, and that his paper be included in the published report of this convention. It was so ordered.

The President announced the discussion of the several reports of the Legislative Committee. The first in order, that on the rules and conditions under which estimates should be submitted by contractors in the building trades, was read.

On motion of George Watson, of Phildelphia, the report was taken up and discussed section by section. The discussion occupied all of the morning session, and was extremely interesting, as it most fully developed the existing relations between the architect and contractor. The principal discussion was regarding the insertion or elimination of the word "details." Upon Section 1 being read by the secretary, George C. Prussing, of Chicago, moved its adoption as read, and a member moved to amend by inserting the word "details."

Marc Eidlitz, New York: Mr. President, I do not think it would be possible, in very many cases, for architects to have the details ready at the same time the plans are. In most cases the details are only large crude sketches in pencil or charcoal made as aids in working the plans, and I am sure such a demand would not be entertained if made, and I do not think we should request of other parties more than we could reasonably expect, as they properly do. If we get plans and specifications made in ink, which we ought to insist upon as a matter of justice, and which the architects will grant when the subject is properly presented, it is as much as we should ask for.

J. S. Stevens, Philadelphia: I do not think it advisable to incorporate the word "details" in the section. I do not want to make a demand which I am certain would not be complied with. I hope gentlemen will be very careful in considering the report of the Legislative Committee and particularly this portion of it. The proposed section recommends that the members of the several exchanges shall refuse to make estimates unless the conditions named are complied with—a proposition I do not feel will receive that general endorsement it should have, emanating from this body. It is, therefore, very important that we send out nothing that will fail to meet its purpose. What we desire and ought to have is simply to have plans submitted to us that are intelligible and that will make all concerned stand on equal ground.

John J. Tucker, New York: Mr. Stevens has very properly brought to our attention that we must not ask too much. We must not forget that

this is only the second convention of this association, and we should not jeopardize its welfare by any inconsiderate action. Still we should demand our just rights, and the time has come for us to expect them. We have too long suffered from the abuse of them, from architects throughout the various cities of the land. Now, in this first section, we only ask to be allowed to run our own business instead of letting the architects do it for us. It is as little as we can ask to have plans and specifications submitted to us made in ink or some indelible process. I think the committee have rightly phrased the section, and am in favor of letting it remain as it is.

Matt. Benner, Chicago: I simply rise to say that I coincide with those who complain of the incompleteness of information furnished by architects as a basis of estimates. It is well known that in ornamental ironwork, that in a majority of cases the architect will give a small sketch-drawing and say the work is to be thus and so, and you figure upon that basis; but when he gives you working details you find them something entirely different from what you were led to believe when you figured on the work. I have figured upon work that in this way amounted to twice the estimate on account of the different character of work called for by the details. I hold there should be something specific furnished by the architect, showing just what is wanted in the first place.

Secretary Sayward: A word has been dropped in my ear which leads me to make a statement which may correct this discussion. The intention of the committee in drafting these rules was not to have them arbitrary measures. For many years builders have been satisfied there was something wrong in the method of making estimates. The committee believed the time had come to correct this matter, but they did not wish to ask this convention to accept their conclusions unless it saw fit to do so in the best judgment of its members as to put them in better form, so that an adopted rule of this association expressing the demand can be presented to the architects, to their local organizations, where they exist, or in places where there are none to get them together, and say: Here we have certain rules which were adopted at our national convention, and which we believe are just and right. Come and discuss the matter with us and help us to put the matter on a proper business basis. It is well known to everyone who has bid on work, that it is nearly impossible to get details at the time of making estimates. As a general thing, architects do not know exactly what the details will be at the time plans are made, so that they may say that it is impossible to comply with our request, and by insisting on this thing, we may throw the whole overboard.

M. Benner, Chicago: The gentleman from Boston has said that the architect does not know, at the time his plans are made and submitted for estimates, what his details will be. Now, if the architect does not know what he wants, how can the builder expect to know?

After some further discussion, in which sections 1 and 2 got decidedly mixed; on the motion being put section 1, as amended, was adopted.

Section 2 was changed to conform with section 1 as amended and adopted.

Sections 3, 4, 5, 6, 7, 8, 9 and 10 were adopted as read.

Section 6 was generally discussed, the general opinion developed being that the specifications should mention everything shown in the plans.

On this point George C. Prussing, of Chicago said:

Mr. Prussing: Mr. Chairman, I do not know that I understand the committee as to the meaning and extent of section 6. It is well known that there are certain parts of a building shown on plans and never mentioned in the specifications. Does the committee mean that these parts shall be left out of estimates? That nothing shall go into estimates not shown on plans? For instance, the plans show chimneys, and the specifications say nothing about them.

Secretary Sayward: I do not consider that point well taken. They may not detail in every way the face or slant of the chimney, but in some way they are referred to.

F. V. Gindele, Chicago: A plan might show there is to be a chimney in a cutstone wall, and it may be mentioned that a certain chimney is to be furnished, but the plan not showing how it is to be constructed the estimate is made in the dark. It might refer to a chimney to cost $100 or $1,500. It should be referred to in the specification or not estimated upon.

Mr. Mason, Milwaukee: I think this one of the most essential matters in the report. The carpenter must have a general draft of whatever is to go into the house, in order that he may make an intelligent estimate, as there are so many little things left out of the specifications that should be in.

After some further discussion, participated in by D. A. G. Sullivan, of Charleston, C. W. Voshall, of Rochester, Leander Greeley, of Boston, on motion of J. J. Tucker, of New York, the section was adopted.

Section 8 was generally discussed.

Marc Eidlitz, of New York: I believe this is simply a part of the specification and can be dropped.

T. B. Hancock, Cincinnati: I am in favor of this article as it reads. I am a plasterer by trade. The architects of Cincinnati put in their specifications that the plasterer shall, after the completion of a building, make all repairs after the plumbing, steam-fitting and other trades have mutilated his work. Now he has no means of knowing what cutting will be done. I am in favor of making every man who cuts and destroys in a building responsible for the damage done.

C. W. Voshall, Rochester: I am strongly in favor of passing the section as it reads. It will make each more careful when they know they have to pay for the damage they do.

John McGlensey, New York: I am heartily in favor of the section as read. It proposes that we shall settle among ourselves for the injury done each other's work, and act honorably one with another. Talking about plans you cannot estimate upon what the electric light man or plumber may do. I have an instance in mind where it did an amount of damage that cost me to repair four times the amount of the original contract.

The article was further discussed by Marc Eidlitz, of New York, who thought damages for work destroyed should be covered by special contract, Thomas Parker, of Boston, M. McNamara, of Cleveland, and others. Wm. H. J. Hurst, of New York, finally moved to amend by inserting the words "original plan" after the word "another." This amendment was lost and the original motion carried.

The discussion ended with section 12, when the session adjourned to two o'clock, at which time the discussion would be resumed.

SECOND DAY—AFTERNOON SESSION.

The president called the convention to order at 2 P.M., fifty-six delegates answering to roll call.

The discussion upon the rules for estimates was resumed, and the following rule (section 22) was discussed and added:

SECTION 22. Under no circumstance should bids be amended after being opened, and bidders to whom work has been awarded shall sign the contract or withdraw.

This was passed, the secretary being instructed to make the wording more comprehensive, if possible, without altering the sense.

The reconsideration of several of the sections passed in the morning session occupied a large portion of the session, and the amended report was adopted as a whole, eighty-three delegates answering to the roll call, seventy-nine of which voted in the affirmative, three in the negative.

The amended report and rules are as follows:

RULES FOR ESTIMATES.

The Committee on Legislative Matters have conceived it to be within their province to prepare, for the consideration of the National Association, certain rules or conditions which contractors may properly require to be observed by owners, architects and builders when estimates are to be made.

The action they desire is simply this: That the National Association recommend all its affiliated bodies to adopt these rules in coöperation with the architects in the various cities, and require their members to decline to estimate, unless their provisions are conceded, as a basis upon which bids are to be submitted.

The committee hope by this means to correct some of the improper practices that have prevailed in the past, and secure a nearer approach to honest and fair dealing by and between builders as well as between architects and builders.

Respectfully submitted,
MARC EIDLITZ,
LEANDER GREELY,
WM. HARKNESS, JR.,
Committee.

Rules and conditions under which estimates should be submitted by contractors in the building trades.

1. General plans, details and specifications, when offered for final or competitive estimates, should be presented, on a scale not less than one-eighth of an inch to the foot, should be done *in ink*, or by some process that will not fade or obliterate, and be complete in every part.

2. Such portions of the drawings as require a larger scale than general drawings, *for a thorough comprehension of what will be demanded*, should be so presented.

3. Specifications should be definite.

All such indefinite demands as "The contractor must furnish all work that is necessary," or "All work that the architect may require," are *improper*, and should be eliminated before estimates are submitted.

4. Estimates should not be given to cover an indefinite depth of foundation.

Foundations which have to go below the depths shown upon plans should be paid for as *extra work* at prices agreed upon.

5. The specification should be taken as the guide for estimating; and all demands made by the specification — unless objection be made thereto in writing when bids are submitted — should be covered in the estimate offered.

6. Demands made by the plans, *and not referred to in the specifications*, should NOT be considered in the estimate offered.

7. Everything that will be required in the various branches of work should be mentioned in the specification, classified and grouped under appropriate headings.

8. Specifications should distinctly state that when it is necessary to cut or change the work of one mechanic in the placing of the work of another, then the said cutting should be *done* by the mechanic whose work is so changed or cut, he being *paid therefor* by the mechanic whose work makes the said cutting necessary.

9. Contractors, when required to estimate for work involving any or all the subcontracts, should not be restricted as to whom they shall employ as sub-contractors *unless previously notified.*

10. Should portions of the work be reserved by owner or architect, and estimates therefor obtained by them, the principal contractor, if required to include the said subestimates in his contract, should receive a compensation therefor of not less than 10 per cent on the amount of said sub-estimates.

11. In all cases where work is let under plans and specifications prepared by an architect, for which estimates have been received and opened, the lowest *invited* bidder should be entitled to the contract, and estimates for changes should only be made by him unless the said changes involve a complete alteration in the plans, and then the full competition should be again opened.

In no case should the two lowest bidders be called upon to estimate ordinary changes to decide which is entitled to the contract.

In case the price estimated for changes should not be satisfactory to the owner, it should be settled by arbitration.

12. Invited bidders should receive due notice of time and place of opening of bids.

Bids upon being opened should be immediately displayed to the inspection of all bidders, and for a period of three days thereafter.

Contracts should be awarded by owners or architects within a reasonable time (say ten days) after a competition is closed.

Contractors should not be holden on estimates retained longer than ten days before deciding to award contract.

13. Should all solicited bids received be refused, then the lowest bidder should be entitled to compensation as follows. For estimates amounting to

$5,000 and under	$ 25.00
$5,000 to $50,000	50.00
Over $50,000	100.00

No compensation for estimates should be required where the contract is awarded to the lowest bidder.

14. When security is exacted from a contractor, a like amount of security should be required of the owner.

15. Sub-bids, when solicited by the architect, should not be shown by him nor exhibited in his office, but should be retained by the architect until the competition is closed and principal contracts awarded, when they should be disposed of in the way and manner provided in these rules, viz: added to principal contracts (with a percentage—see Rule 10), *if agreeable to principal contractor*—or direct contracts made.

16. A principal contractor having been awarded a contract involving sub-contracts, his estimate having been based upon sub-estimates, or bids which he has *solicited* and *received*, he should award the said sub-contracts to the lowest bidders, and should notify the sub-bidders that their estimates have been accepted or rejected as soon as the contract has been awarded to him. The fact that such sub-bids were received by the principal contractor *previous to the submission of his estimate* should be conclusive evidence that they were used by him.

17. Should a principal contractor receive a sub-estimate *unsolicited*, he should not be considered under obligation to use the said bid, even if it be the lowest; but he must not reveal the bid, nor use it in any way to influence any other party.

18. Any member detected in trading on any of the sub-bids, whether they be solicited or unsolicited, or however knowledge of them may have come into his possession, will be liable to forfeiture of membership, censure or suspension.

ADDENDA.

19. Contractors should decline to give architects or owners estimates in the aggregate when the said architects or owners are soliciting estimates in detail; nor should estimates be furnished in detail when estimates are being solicited in the aggregate.

20. Whenever the completion of a contract will be required in a certain time, then that time should be mentioned in the specifications; and if a penalty for non-completion is to be exacted of the builder, it should be so stated, and also that the owner will be

required to pay a premium of like amount to the builder if the work is completed before the specified time.

21. Under no circumstances should bids be awarded after being opened, and bidders to whom work has been awarded shall sign the contract or withdraw.

The following resolution was presented by Mr. Hearnes, of Detroit, and read by the secretary:

Resolved, That the members of the several exchanges are hereby recommended to urge upon the architects of their respective cities the adoption of the rules for making plans and specifications in this convention adopted.

The resolution was adopted as read.

The report of the Legislative Committee on Apprenticeship was next taken up. It is as follows:

APPRENTICESHIP.

Your committee, in whose charge was left that important question known as the apprenticeship system, have thoroughly reviewed past methods in their relation to present conditions; have visited manual training schools existing as adjuncts to schools of technology, or as departments of the public school system; have inspected the celebrated mechanical trade schools, established and maintained in the city of New York by the philanthropy and liberality of Col. Richard T. Auchmuty; have had the privilege of a lengthy interview with the generous founder, and make the following report:

We find that the old system of apprenticeship, under which the boy who wished to learn a trade was "indentured," or "bound out" to an employer for a term of years, has been gradually falling into disuse from natural causes, until scarcely a vestige of it remains.

In our opinion there is no encouragement for a revival of this old system, for the following reasons:

Fifty, and perhaps even twenty-five years ago, the employer in the building trades worked with his own hands, and being continually present, could give proper instruction to the apprentice. He took the boy to board in his own house, and to a certain extent had an oversight of his habits, and could control his general conduct to the end that a good mechanic should be the result.

The situation to-day is widely different. Employers seldom work at the trade, for the reason that there is a great increase in the volume of business, and because new and quicker methods of work have become so desirable and necessary that the time of the employer is fully occupied in attending to business details and in general direction; he seldom or never takes tools into his own hands or remains long enough upon actual work to instruct in that practical way which was possible formerly.

The apprentice is left, therefore, largely in the charge of the workmen. Foremen or other employes give such general instruction as may result from their good nature, or sense of duty to the boy or to their employer.

It is a fact which cannot be disputed that there is at present no such thing as regular or systematic teaching, the apprentice being left to "pick up" his trade instead of having it taught to him.

We are strongly of the opinion that the tendency of modern methods of conducting work will always be away from those general conditions which made possible the "old apprenticeship system;" and this opinion, together with the fact that under broader opportunities for education there is, undoubtedly, a much higher grade of intelligence today than in the past, and the fact also that trades are subdivided much more than formerly, so that greater proficiency is required in the various branches, leads us to the conclusion that apprentices must be taught and mechanics made, in the future, by entirely different methods from those in vogue under the system referred to.

These new methods may be briefly described as a combination of schooling pure and simple, and practice pure and simple; or, in other words, of a course of schooling under regular instructors (the schooling to be paid for the same as any technical course is paid for in other professions) and a course of practice, under employers, on actual work, which practice or service shall receive appropriate wages.

These two courses will form a comprehensive and complete system, which, when fully understood and thoroughly operated, will produce a better class of mechanics than the present no-system, or the past hap-hazard system, and will leave as little to chance as possible.

The first step will be the establishment of mechanical trade schools, whose definite purpose shall be to give preparatory instruction in the science or technique of trades to young men who intend to follow mechanical pursuits for a livelihood, this preparation to be supplemented and followed, and the education completed by a term of service on practical work under actual employers, which term shall be of shorter duration than usual on account of and by virtue of the preparatory course in the trade school.

While we admit that "Elementary Manual Instruction" as already introduced to some extent in the public schools, is valuable to the ordinary scholar (inasmuch as it may cultivate a certain amount of manual dexterity and create a taste for mechanical pursuits), we are still strongly of the opinion that for the practical training of young men who intend to be mechanics, special instruction must be had in mechanical trade schools as an intermediate course between the public school and that actual service with the employer where his education will be completed and from which he may graduate as a journeyman.

We believe that these practical mechanical trade schools should *not* be a part of the public school system, but should be established and maintained by private enterprise.

We also believe that these schools should not be established or maintained exclusively by any distinct association of builders, but are emphatically of the opinion that such associations should coöperate with them, and indeed that such coöperation is necessary to insure their success as the first stage in the education of the mechanic, as well as to establish the fact that builders recognize the school as part and parcel of the new system.

The legitimate and proper method of coöperation in this system, as far as associations of builders is concerned, should be by encouraging private enterprise to establish these schools; offering to assist pecuniarily until they become self-supporting; agreeing to give preference of employment to graduates from the schools; joining in the management by appointing committees to approve methods, and examine students in establishing their proficiency, which shall entitle them to certificates of graduation.

We are convinced that there is abundance of capital that will quickly be invested in enterprises of this kind as soon as associations of builders demonstrate a belief in their practical value by lending aid in the way suggested.

We recommend that the National Association of Builders approve of the following detailed method to take the place of the old apprenticeship system and secure its approval and adoption by all filial associations as rapidly as possible, to the end that mechanics may be taught upon our own soil and American boys given the best opportunity possible to become proficient in the building trades.

Method approved by the National Association of Builders to establish the right of any person to be known as a regular journeyman in the building trades.

1. The serving of a regular course of instruction in a mechanical trade school and graduating therefrom with a certificate of proficiency granted by the same, under rules and regulations approved by a committee of master mechanics, who may unite in the management of the said school.

2. Service for a term of practice with an employer on actual work, this term to be at least one year less than the usual term of apprenticeship by virtue of the holding of a certificate of proficiency granted by a mechanical trade school. During this term of service the young man to be known as a "junior."

3. The completion of the education of the mechanic to be acknowledged on the part of the employer by the issuance of a certificate from the association of builders to which the employer may belong, which shall state that the holder has passed through the prescribed course at the trade school, and the term of practice with an employer (name and location given) with satisfaction and credit, and is entitled to be received by all builders as a journeyman.

Respectfully submitted,

MARC EIDLITZ,
LEANDER GREELY,
WM. HARKNESS, JR.,
} *Committee.*

J. J. McCarthy, of Chicago, moved that the report be taken up section by section.

M. McNamara, of Buffalo, moved to amend that it be adopted as a whole.

The amendment was carried.

Apropos to the apprenticeship report the secretary read the following letter from R. T. Auchmuty, president of the Mechanical Trade School, of New York:

61 UNIVERSITY PLACE, February 3, 1888.

W. H. Sayward, Esq.:

Will you be kind enough to let me know what action is taken in the Apprenticeship Committee's report at the national convention, and should you attend it I would be glad if you would mail me any newspapers giving a report of the proceedings. Should the report be adopted and the delegates earnestly attempt to make it carry out its provisions, this convention would be the most important meeting of the kind that has been held in the United States.

Yours truly, R. T. AUCHMUTY.

A motion to reconsider the report was again put and prevailed, and some important discussion took place.

Wm. Harkness, Jr., of Philadelphia, stated that the committee, in formulating the report, had made a distinction been manual and mechanical instruction, believing that manual instruction should form a part of the education of the public schools, and that mechanical instruction should be acquired from master mechanics and supported by private rather than public enterprise.

John A. Stevens, Philadelphia: I agree with the committee in this much, that I believe it is the duty of those who have charge of our public school system to educate, in a manner, the hand as well as the head. We all know that there have been a great many changes taken place since my venerable friend, George Watson, was a little boy and went as an apprentice to his trade. At that time it was considered sufficient if a boy started off with an education consisting of the three R's. Then he was ready to go to his trade at the age of fourteen, fifteen or sixteen years, at least. He lived with his master and learned his master's trade. Now, with the great advance made in science and the mechanical arts, it becomes more important to have a higher education. It is not sufficient for a lad of today, who wishes to learn his trade, to understand merely his arithmetic and multiplication table; he must know higher mathematics; able to read French and German books, and publications and authorities in the different departments of the mechanical arts and trades. Now we can't crowd all this into a boy's head in six years, but this we can do: we can supplement in our public schools the education of the brain by that of the hands, so that by the time he is eighteen, he will have an education that will be equivalent to two years' apprenticeship under the old system. My idea is that when a lad comes out of school he will be prepared to become a mechanic, to attend some such school as Mr. Auchmuty has established in New York, and on which he is spending large sums of money to educate our boys in the mechanical trades. That if the education of the brain is supplemented by that of the hands by competent teachers in our public schools, our boys could attend trade schools in the evening, if need be, and if this was to begin now, in ten years we would have a better class of mechanics than we have ever had in this country. Now we have to depend on the foreign countries for our workmen, who come in the spring and go back in the fall, taking away with them money that should be kept at home. Then we would have a high grade of American mechanics to do the work of this country.

George C. Prussing, Chicago: I believe the distinction between manual and mechanical training has not been brought forcibly enough before the country, and, therefore, I hope this report will be published and the subject forced upon public attention.

Secretary Sayward: I would say as a matter of fact that nearly $90,000,000 have been expended every year on the public education of the country, and that but a very small percentage of this large sum has gone toward the cause of those who desire to learn something in relation to the mechanical arts. I believe much more of this vast sum should be devoted to the youths of the country who ought to be let to follow the vocation of mechanics.

After further discussion by M. Benner, of Chicago, J. G. McCarthy, of Chicago, and others, the question on the adoption was put to the convention and passed unanimously.

The president announced as the next order of business a paper on carpentry, by William Goldie, of Chicago. (The paper is printed elsewhere in this issue.)

On motion, a vote of thanks was tendered Mr. Goldie for his excellent paper, and it was ordered published and spread upon the minutes of the association.

The report of the Legislative Committee on Lien Laws was read by the secretary, as follows:

LIEN LAWS.

Your committee has made a thorough examination of the bearing of the various lien laws of the different states and territories, and, after discussing the question at great length, submit the following as their report:

To form a lien law that should be complete in all its parts, correct in legal points, and applicable to existing conditions in the various states, is manifestly a difficult if not an impossible undertaking. We have therefore confined our conclusions to such general points as we deemed suitable in all localities and which all lien laws may properly comprehend.

In our deliberations we have divided the subject into questions and first considered—

1. "Is it desirable to have a lien law?"

This question we decided in the affirmative, for the reason that while there may be opportunities for fraudulent dealing and questionable transactions either with or without a law, that there will be greater freedom from such practices under a law which shall comprehend certain fundamental principles of protection, than without any law at all.

The next question considered was—

2. "Can lien laws be made fairly uniform in the different states and territories?"

This we decided in the affirmative, for while other statute laws of the various states may make it necessary to extend the time in which liens may be made, or to alter legal phraseology, the fundamental principles remain the same and laws can be so framed as to be identical so far as the protection of certain interests is concerned and should be made so as soon as possible.

The next question was—

3. "What interests should be protected by lien laws, and what should be the order of preference?"

This query we answered as follows:

Personal labor actually performed upon the property should unquestionably have prior rights over all other claims.

The next in order should be the interests of sub-contractors, or, in other words, persons who may furnish labor, or labor together with material, either by contract or otherwise, to a general contractor, who furnishes or performs work direct for an owner.

The next interest should be the interest of the individual furnishing labor or material, or both, direct to the owner, either by contract or otherwise.

The next and last interests to be protected are those of persons furnishing material to a direct contractor.

The next question considered was—

4. "Should property be responsible under the lien law for claims amounting to more than the unpaid balance of an existing contract with the owner for the erection of the whole or any part of the building?"

To this we answer:

Property should be subject to liens to the extent of the original amount of existing contracts under which the work was done or material furnished, whether payments have been made on the contracts or not, but in no case beyond the amount of the contracts.

The last question was—

5. "Should the taking of a note deprive one of the right of lien?"

We answer as follows:

The acceptance of a note which falls due beyond the limit allowed for filing liens should certainly create forfeiture of the right of lien. Builders should be wise enough not to take notes falling due beyond the lien limit.

To briefly recapitulate the points which we believe should be, and can be incorporated in all lien laws, we say that lien laws should be made uniform in so far as they protect certain claims and in the following order:

First. Personal labor actually performed on property subject to lien.

Second. Labor furnished, or labor *and* material furnished by a sub-contractor.

Third. Labor or material, or both, furnished direct to owner, either by contract or otherwise.

Fourth. Material furnished to a direct contractor.

We suggest that the National Association take this action simply—recommend all filial bodies to petition the Legislatures in their several states to have their lien laws so drawn or amended as to afford protection upon the four fundamental points above rehearsed, and that all clauses conflicting with these principles be expunged, to the end that all lien laws may in their principal conditions be uniform.

Respectfully submitted,

MARC EIDLITZ,
LEANDER GREELY,
WM. HARKNESS, JR., } *Committee.*

ADDENDA.

Mr. Harkness suggests the changing of certain words in the answer to the fourth question, namely: In the first line of the answer strike out the words, "original amount of existing contracts under," and substitute the words, "value of the building upon;" also, strike out in same section the last word "contracts" and substitute "value of building."

On motion, the report was adopted, as read, without discussion.

The next business in order was the reading of a paper on painting, by J. G. McCarthy, of Chicago. (The paper is printed elsewhere in this issue.)

On motion, a vote of thanks to Mr. McCarthy was unanimously passed, and his able paper ordered published and spread upon the records of the convention. The session then adjourned to 9:30 A.M., Thursday.

THIRD DAY—MORNING SESSION.

The convention was called to order promptly at 9:30 A. M. President Blair introduced the Reverend Doctor George Thayer, who opened the session with prayer.

After roll call, at which seventy-four delegates were present, E. E. Scribner, of St. Paul, read a paper on the improvements and advances made in roofing. (The paper is printed elsewhere in this issue.)

On motion of Mr. Adams, of Indianapolis, a vote of thanks was extended to Mr. Scribner for his excellent paper, which was ordered printed as a part of the convention proceedings.

The report of the Legislative Committee on permanent arbitration was read by the secretary, and the discussion, which followed, was lead by George C. Prussing, who was followed by representatives from almost every delegation. The principal argument was upon Section 1, as it assumed that each city had an organization of journeymen similar to the exchange. This section was amended so as to cover special or general organizations of employers and employés. After having been discussed and adopted section by section, on motion it was adopted as a whole as follows:

PERMANENT ARBITRATION.

GENTLEMEN,—Although not specially directed so to do, the Legislative Committee desire to present for the consideration of the convention their views in regard to the position which should be taken by the National Association on the labor question, and respectfully submit a plan for permanent arbitration, hoping that the convention may take action thereon which will secure the adoption of a uniform method of treating labor matters among builders in those cities of the country which are affiliated with the National Association.

The success of any plan of arbitration must depend primarily upon the coöperation of employers with their workmen in some comprehensive manner in order that the plan may be practically effective.

Your committee, therefore, consider that wherever in any city there may be an organization of workmen existing under fairly good government, it would be wise to first attempt to utilize such organization for the purpose of the coöperation referred to; and that where no such organization exists, or where the existing organization may be lacking in the elements of strength necessary to warrant its recognition, then the plan may be set up on its own merits and recourse to it offered by the employers to their individual workmen whenever occasion may demand its services.

This establishment of a plan of arbitration should be thoroughly advertised, so there may be no excuse offered by any parties that a means of peaceful solution of disagreements is not at hand.

This method or plan depends for its chief strength upon the existence of exchanges or associations of employing builders, harmonious enough to arrange the details for their particular cities upon the general plan here set forth, and who recognize that concerted action is essential to any successful efforts in this direction. This plan cannot be adopted by individual employers; it must be by associations of employers.

The best effect will be realized where exchanges representing all kinds of building trades take the matter in hand; and where these do not exist, then the same idea should be followed by special trade organizations with the same end in view. Where exchanges exist, one arbitration committee with interchangeable parts, so to speak, may act for all trades, while if special trades, acting separately, it would necessitate a committee on the part of each trade and much more detailed and greater complication would ensue.

To illustrate: An exchange existing in any city or town may come to an understanding with any reputable association of workmen that a mutual standing committee on arbitration be established, with any number upon each side that may seem desirable, presuming that a small number will always be preferable to a large number.

This committee to be appealed to by either employer or workmen, and if a special trade, in which the difficulty may exist, should not happen to be represented upon the standing committee, then the committee may add to its numbers, to put it upon a proper footing to consider the questions to be brought before it. Thus a method through an exchange of general association will secure to the special trades their proper consideration, and the general interest of all the trades will also be considered and protected. There is one general principle also, the recognition of which is absolutely essential to the success of this plan or any plan of arbitration, and that is the fundamental principle of individual liberty, upon which our association is founded.

With this statement of our views we offer the following plan, in suitable form for adoption by exchanges or associations, with such alterations or modifications as may be necessary by conditions existing in various cities:

PERMANENT ARBITRATION.

*1. It is hereby agreed by the.....(association) of..... city.....state, and the..... (labor association) of.....city and .....state, that a committee of arbitration shall be established for the purpose of settling all disputes and differences by and between the building employers connected with this exchange and their workmen, and no strike or lockout shall occur until reference is had to this committee.

2. It is understood and agreed that this committee is established upon the basis of individual liberty, namely that no workmen shall refuse to work with other workmen, because they do not belong to certain societies; that no workman or association of workmen shall adopt any boycott against materials in any way, shape or manner, and that no employer or association of employers shall adopt any boycott against workmen on account of their affiliation with societies, or black-list them on that account. Workmen or employers adopting such pernicious practices will be denied the privileges of this system of arbitration.

3. This committee of arbitration shall consist of three persons, on the part of the association of employers, and three on the part of the workmen; and they shall serve for the term of one year from the date of their appointment or until their successors are appointed. In event of the trade which may make application for the services of the committee not being represented by persons in that trade, on the said committee, then the committee shall have power to add to their numbers such proper persons to represent that trade on behalf of either employers or workmen, or both, as they may deem fit. In event of the committee being unable to decide upon any question in dispute, then they shall have power to select an umpire.

4. This opportunity for peaceful arbitration may be taken advantage of by builders outside of the membership of this association, or by workmen not members of any labor organization, upon application and consent of all parties interested.

The secretary again read the report of the Legislative Committee on insurance, which was adopted as read without discussion.

George Watson, of Philadelphia, chairman of the Committee on Nominations and place of holding the next convention, read the committee's report.

Place of holding next convention, Philadelphia.
Officers for the ensuing year:
For President—S. Stevens, of Philadelphia, Pa.
First Vice-President—E. E. Scribner, of St. Paul, Minn.
Second Vice-President—John J. Tucker, of New York City.
Secretary—W. H. Sayward, of Boston.
Treasurer—George Tapper, of Chicago.

On motion of George C. Prussing, of Chicago, the gentlemen named in the report of the committee were elected to the respective offices by acclamation. This vote included the place of holding the next meeting, as named by the committee.

President Blair invited President-elect Stevens to the platform, and, after listening to a felicitous speech from that gentleman, in which he commented on Cincinnati hospitality, and thanked the convention for the honor conferred upon Philadelphia in appointing the next convention to be held there, and upon the Philadelphia exchange in making one of its members president of the national body, the session adjourned to two o'clock P.M.

THIRD DAY—AFTERNOON SESSION.

The convention was called to order at 2 P.M., sixty-six delegates answering to roll call.

The first order of business being the report of the Committee on Resolutions, the secretary read the report as follows:

GENTLEMEN,—Your Committee on Resolutions beg leave to report that they find the following unfinished business from the last convention referred to this committee, namely:

1. Assistance to associations of architects to secure greater safety in the erection of buildings. By John S. Stevens, of Philadelphia.
2. Uniformity of measurements in brick and stone work. By Geo. Weaver, of Indianapolis.
3. Uniformity of constitution and by-laws for filial associations. By Geo. W. Roydhouse, of Philadelphia.
4. On the elimination of the word "master" in the naming of exchanges. By A. J. Campbell, of New York.

The present convention has also referred to your committee the following resolutions, namely:

1. A declaration of principles. By A. J. Campbell, of New York.
2. On mechanical trade schools. By Jno. E. Simms, of Washington.
3. On uniform size of brick. By D. V. Purington, of Chicago.
4. On general contractors. By G. W. Roydhouse, of Philadelphia.

Your committee report on the subjects referred to them from the last convention, as follows:

1. We recommend that the Executive Committee extend to all associations of architects a willingness to assist them in carrying out the objects mentioned.
2. We recommend that the Executive Committee be requested to obtain accurate information on the various ways or methods of measuring brick and stone work and prepare a plan of uniform measurements, and report to the next convention.
3. We refer this subject to the Executive Committee for consideration and formulation during the interim. The result to be transmitted to the various filial associations with request to conform as nearly as possible.
4. We do not consider it advisable to take any steps to secure the changing of the names of existing associations, but we recommend that new exchanges in selecting names should avoid the use of the word master.

We also report upon the resolutions offered at the present convention as follows:

1. That we have carefully examined and considered the resolutions offered by Mr. Campbell, of New York, and upon comparison with a declaration of principles adopted at that last convention, and we find them to be substantially identical, and as this is a most satisfactory testimony of the efficiency and thoroughness of the previous work, we recommend a reaffirmation of the principles adopted last year.
2. We are of the opinion that this resolution conflicts with the action already taken in the adoption of the report of the Legislative Committee, on apprenticeship, but we recommend that certain portions of the subject be referred to the Executive Committee for their serious consideration.
3. We report with a favorable recommendation.
4. We report with a favorable recommendation.

Respectfully submitted,

W. G. VINTON,
WM. FERGUSON,
STACY REEVES,
WM. P. JUNGCLAUS. } *Committee.*

On motion, the report was adopted as read.

At the request of Mr. A. J. Campbell, of New York, the preamble and resolution presented by that gentleman, and reported upon by the Committee on Resolutions, was read without discussion.

Because of the expressed dissatisfaction of several members that the report on lien laws was passed without discussion, at the request of J. S.

*An amendment proposed by W. H. Sayward, but not put into regular form, was passed to the effect that special trade organizations shall appoint committees to act in conjunction with like committees from the master workmen, for the purpose of arbitrating all differences, and where such organizations do not exist this plan will follow.

Stevens, that action was reconsidered, and the matter left to the incoming Legislative Committee to report to the next convention.

The following Board of Directors were elected by the several delegations:

Geo. C. Prussing, Chicago, Ill.; D. J. Macarty, Washington, D. C.; Thos. E. Knauss, Columbus, Ohio; E. B. Crane, Worcester, Mass.; Henry Oliver, Charleston, S. C.; Marc Eidlitz, New York City; Wm. C. Jungclaus, Indianapolis, Ind.; John Rawlin, Grand Rapids, Mich.; Ashur Bassford, St. Paul, Minn.; H. E. Holtzinger, Cincinnati, Ohio; Alex. Chappoton, Detroit, Mich.; Rich. Smith, Milwaukee, Wis.; A. McAllister, Cleveland, Ohio; Benj. J. Whitcomb, Boston, Mass.; Wm. Harkness, Jr., Philadelphia, Pa.; A. H. Tilden, Buffalo, N. Y.; Jno. W. Briggs, Providence, R. I.; Geo. C. Elliott, East Saginaw, Mich.; E. L. Bartlett, Baltimore, Md.; Fred F. Beck, Sioux City, Iowa; Wm. Taylor, Kansas City, Mo.; Chas. W. Voshall, Rochester, N. Y.; Wm. Dickenson, Syracuse, N. Y.; Thos. Armstrong, Louisville, Ky.; David M. Alexander, Albany, N. Y.; H. N. Leighton, Minneapolis, Minn.; I. N. Phillips, Nashville, Tenn.; F. H. West, New Orleans, La.; Samuel Frances, Pittsburgh, Tenn.; C. A. Meeker, Troy, N. Y.

On motion of J. S. Stevens, the per capita assessment of $2, as recommended by the Board of Directors, was made the assessment for the year.

On motion of Thomas Parker, of Boston, the convention unanimously passed a resolution, appointing a committee to procure and present badges, worth $100 each, to George C. Prussing, chairman of the first convention, and to the retiring president, J. Milton Blair.

Thomas Parker, of Boston, A. J. Campbell, of New York, and George Tapper, of Chicago, were appointed as this committee.

A resolution was presented by J. G. McCarthy, thanking the members of the Cincinnati Builders' Exchange, their ladies, and the citizens generally, for the many courtesies extended.

On motion of George C. Prussing, of Chicago, a unanimous vote of thanks was passed to the representatives of the Cincinnati press, and the journals in other cities present during the convention.

The Chair: Gentlemen, we have with us a representative of the press of Chicago, and of a paper that has taken a lively interest in this Association from the first. I have the pleasure of introducing to you Mr. R. C. McLean, editor of THE INLAND ARCHITECT.

R. C. McLean: Gentlemen of the convention, as a representative of the press, I thank you for this honor. I shall not take more than three minutes of your time, for I know how anxious you are to go over to the hotel and see how beautiful the ladies look who are now enjoying their banquet there. The press is trying to help you in your good work all it can. On my part, what I have done has not been up to the measure of my desires. As the publisher of an architectural journal I have had more to do with architectural associations than those that affiliate with them. When this association of builders was formed I saw its opportunity for usefulness, as the lines between the architects and builders were becoming wider apart and more distinctly drawn, that is, in the direction of occupation. Once the architect and the builder were as a general rule one. Now the architect is one who designs and plans the building; the builder is the one who constructs it. Going thus hand in hand, each keeping within his special work, we have better buildings, for the architect is left to study his designs, and the builder to give his whole attention to carrying them out. Thus, gentlemen, whether you can get a uniform system of contracts does not seem to me of so much importance as through distinctive associations you can cultivate a spirit of coöperation and learn to work together for mutual ends. This is the hope I have in the future of your Association.

A vote of thanks was passed to the assistant secretaries; speeches were made by President-elect Stevens, Secretary Sayward, Treasurer-elect George Tapper, and others; and on motion of George C. Prussing, the convention adjourned. The next convention will be held at Philadelphia, the first Tuesday in February, 1889.

Convention Notes.

THE headquarters of the convention was at the Gibson House, and the proprietors did everything possible to make the stay of the visitors pleasant. Parlors were given for the use of delegation headquarters, and the expense of the convention hall was defrayed by them. The banquet was given in the main dining-room; that of the ladies in the "ordinary."

THE following from Chicago attended the convention: George C. Prussing, George Tapper, D. V. Purrington, J. G. McCarthy, Mr. and Mrs. Joseph Downey, Miss Ida Klein, William Goldie, Ferd. V. Gindele, Mr. and Mrs. P. B. Wight, Murdock Campbell, Mr. and Mrs. James John, M. Benner, Mr. and Mrs. Charles W. Gindele, Mr. and Mrs. W. H. Iliff, Mr. and Mrs. M. W. Powell, R. C. McLean.

A VISIT that was most interesting and instructive was paid to the School of Technology. The principal, Mr. George Carothers, was introduced by Mr. Allison. Mr. Carothers explained the workings of the school. It was a private school, and an experiment at first. It began with three boys two years ago and now has sixty pupils. The school had grown in numbers mainly by the efforts of the pupils. It was incorporated through the Order of Cincinnatus and the Merchants' Club of Cincinnati. The course takes up, beside the regular high school studies, drawing and the use of tools. The tuition was $60, $75, $100 and $125, each year for the four years' course. Young ladies were entered the same as boys, and in the use of carving tools and planing the former showed themselves superior. Mr. Carothers is a graduate of the St. Louis School for Manual Training. Several young ladies were present and used the plane and saw to perfection, and while in the use of the latter tool the awkwardness naturally expected was not noticeable, it was probably the first time the visitors ever saw a carpenter lay his bangle on the bench before taking up the jackplane. The delegates pronounced the institution most beneficial, and indorsed the object it seeks to attain.

THE Chicago delegation and their ladies returned home in a special car on the Monon route, starting at eight o'clock Saturday morning. They were honored by the presence of Mr. and Mrs. W. H. Sayward, and Mr. and Mrs. Ronald A. Stewart, of Boston. One of the amusements indulged in was the making of rhymes on the names of each gentleman, some of which were quite bright. A symposium regarding the trip, being suggested, "Hiawatha" was murdered as follows:

On the railway, the great Monon,*
Journeyed guests from the convention,
Where the ages paleozoic,
Prehistoric times and ages,
Had been searched for facts and fancies
Regarding the great art of building.
Adam's love for decoration;
How old Noah swung the broadax;
How the Babylonian builders
Struck the job and traveled onward;
Struck because the plans and details
Were not drawn in ink on parchment,
After many days and evenings
Spent in work of weight and import,
Many members and their ladies
Journeyed homeward to Chicago.
Twenty-one the party numbered,
Twenty and one jolly people
(The historian not counted);
And as swift we journeyed homeward
Pleasant were the hours and minutes.
Eight the pleasant hour of starting,
Seven the hour when in the evening
Safely was the journey ended.
Adjectives must be imported
To describe this happy party.
Soon the car, dark and deserted,
Filled with radiance as there entered
All the ladies in procession;
And their lords, with many a bundle,
Followed, wearily submissive.
Oh the hours of rest and pleasure!
Oh the hours that passed like phantoms!
Restful, changing, hardly noticed;
Like the smile of our Joe Downey
When he signs a mammoth contract.
Bright the sun shone on the steeples
And the hills that wrap the city,
But the brightness was not perfect
Till the Saywards joined the party.
Then the mirth flowed as a streamlet
Loosed from winter snows and rigor,
Winter bound and snow enveloped,
Sings its pleasant song in springtime;
Then the fun spread through the carriage,
In the smoke-room grew most furious
Till the ladies sent friend Tapper,
Left with them as a protector,
Sent him with a weighty message
That their lords should return straightway.
Oh the lunch ordered by Gindele!
Oh the lunch that came in baskets!
Lunch that when each was uncovered
Showed a strange mixture of viands.
Pie was there that had been sat on;
Doughnuts that with age were hoary;
Age that made old time turn backward
To the days of the first Pharaohs
And the coffee in the teacups
Tasted like the breath of mummies
'Twas so thin and wierd and ghostly.
Oh the sunshine in the meadows
And the "pastoral scenes" we passed through,
As the gentle game of poker
Flourished in the room for smoking,
Or our Sayward, the great singer,
Made apt hits on all the party.
As the train thus hurried northward
Bright the snow and ice was glistening,
Rivaling the eyes of ladies
Looking out on plain and forest.
Thus, in brief, was that great journey
From the city by the river
To Chicago by the lakeside;
From the river flowing grandly,
Like to fresh molasses candy,
To the lake that glistens ever,
And whose water always sparkles.
Long each scene will be remembered,
Long each incident be treasured,
And no other party, surely,
Of all those then home returning,
Saw so many happy moments,
So felicitous a journey.

* The Chicago delegates traveled over the Monon route and C. H. & D. line, the latter, running from Cincinnati to Indianapolis, being exceedingly picturesque, with probably the best roadbed in the state.

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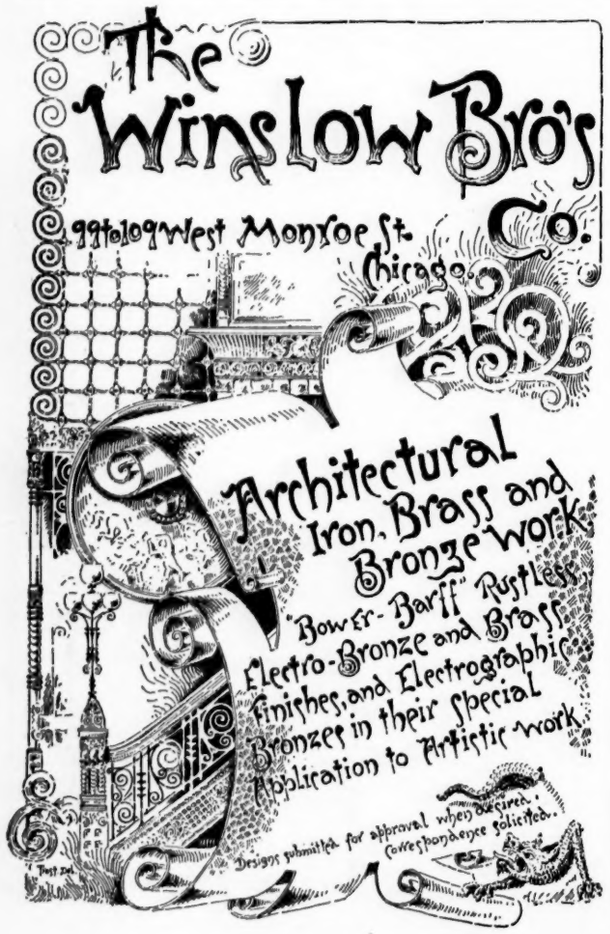
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